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THE CONDOR A MAGAZINE OF WESTERN ORNITHOLOGY.



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ADAPTABILITY IN THE CHOICE OF NESTING SITES OF SOME WIDELY SPREAD BIRDS

By CLARENCE HAMILTON KENNEDY

WITH THREE DRAWINGS BY THE AUTHOR

ONE OF the most interesting things I have had the pleasure of observing while residing in the treeless intermountain region of the West, was the adaptability in manner of nesting of various kinds of birds. Birds which in the mesophytic Mississippi Valley were seldom known to nest except in trees, nested in the western desert almost wherever they could get a safe site. Robins on this frontier of their habitat nested in vines by the house door or even on rafters in the barns. Doves nested on the ground, while Flickers nested in telephone poles, and there is hardly a desert home but shows in its perforated gables the Flicker's attempts to nest. Indeed it is reported that in central Oregon, in the region of Vale, Flickers nest even in holes in the banks as do Kingfishers.

It is interesting to note in passing that these few birds, which have such plastic habits, are also those which are most widely spread across the continent. It is also interesting to note that each of these birds in its own group has a rather wide range of diet, another point of elasticity permitting it to outrange its immediate relations. These are species which have but little sensitiveness toward the encroachments of man. In fact, in the West the Doves, Robins, and Flickers, especially in the irrigated sections, have cast their lot with man in the newly conquered wastes and have given their assistance in the conflict for the mastery of those weed and insect pests which have always threatened agriculture. Perhaps it is imagination, but I have many times felt, as I have watched these semi-domestic species in their tireless work about barnyards and orchards, that they had a more plastic mentality than those of their relatives which depend on shyness, concealment, and speed to protect

themselves. They certainly cannot be as rigidly instinct-bound as are their less adaptable relatives.

Confined to the drier western half of the continent are certain species which formerly lived in the mesophytic strips along the streams, but which since man's advent have more or less adapted themselves to the new conditions and have taken up sides with man. Two of especial note are the Brewer Blackbird and the Arkansas Kingbird. As for the first species, it is a peculiarly western bird, also of plastic habits and fearless mind, and so is widely spread. The Brewer Blackbird, formerly confined to the greasewood thickets and rose bushes along the desert streams, is now one of the ranch assistants, and builds its nest in any bush or vine that is convenient to its work about the garden or orchard.

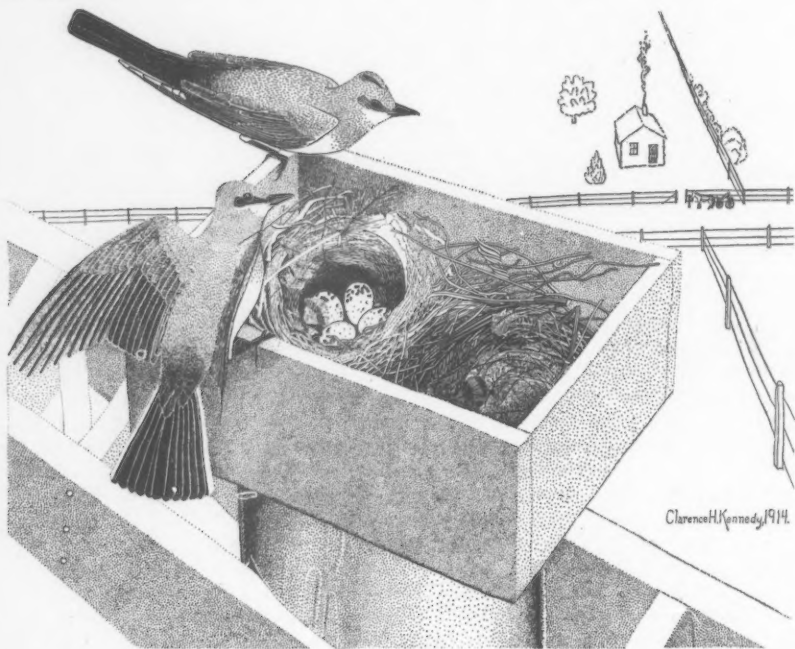


Fig. 19: AN ARKANSAS KINGBIRD'S NEST ON TOP OF A HAY DERRICK, SHOWING THE POSSIBILITY OF ENCOURAGING THESE BIRDS BY PLACING BOXES IN PROMINENT PLACES

Perhaps one of the most striking adaptations shown by any of these bird pioneers is exhibited in the nesting sites chosen by the Arkansas Kingbird (*Tyrannus verticalis*). The Yakima Valley, eastern Washington, is especially suited to showing its preferences and range in choice of sites. The valley is long and narrow, and irrigation started many years ago in its upper end.

By an intermittent development the area under cultivation was gradually extended downward until now it is irrigated for approximately forty miles of its length. In the upper parts, where irrigation has long since developed large trees, these birds seldom nest except in the larger forks of the taller

trees, while in the lower valley, where because of the alfalfa and other cultivated crops food is as abundant as in the older sections, the Kingbirds, in spite of the lack of the usual nesting sites, patrol the alfalfa fields for food, but are compelled to use the hay-derrieks and telephone poles for nesting purposes. Because telephone poles are as abundant as ever in the older sections, and because the poles are practically deserted as soon as the trees become large enough to offer suitable sites, one would infer that the use of a pole for nesting was only a temporary expedient.

Almost all my observations were made during the season of 1912, my time during 1913 being entirely occupied with other work. Perhaps the following list with the accompanying remarks will show best the habits of this bird.

June, 1911. A pair built a nest at the base of the lowest horizontal limb of a five-year-old cottonwood in my door yard. No larger trees were within two miles of this. The nest which contained three fresh eggs was blown out June 3.

June, 1911. Nest on arm of electric pole in front of my home. Nest blown out June 28, 1911, probably containing eggs at the time.

June, 1911. Nest in hay-derriek on a neighbor's ranch destroyed June 28 during haying; contained young.

June 23, 1912. This day was devoted to a trip twelve miles up the valley to Granger, going on the Outlook road and returning on the hill road, with the sole object of locating Kingbird nests. These were easily located because of the open country and the noisy restless habits of the adult birds, which stay at some high outlook point near the nest and keep up a constant chattering.

The first part of this trip was along the electric line between my ranch and Sunnyside. This is a section which has been under extensive irrigation for less than ten years, and as stated previously, contained no trees large enough to suit Kingbirds. In the two miles of this line were six Kingbird nests, always next the pole, and variously placed on the cross arm, behind a converter, or even balanced behind a wire bracket. One of these nests was of the Eastern Kingbird (*Tyrannus tyrannus*). Observations at this time and on following days indicated that these nests contained at this date either eggs in advanced incubation or young birds. One of these nests blew down during a wind in the middle of July a few days after the young birds had left.

The next part of the trip followed the electric line from Sunnyside through Outlook to Granger. This low strip was one of the earliest irrigated sections, and now contains many windbreaks of lombardy poplars and black locusts. No nests were seen on poles until within two miles of Granger, where near Liberty the ground is higher, more rolling and has fewer wind breaks. Here were two poles each with a few straws hanging on its arm, the wreck of a nest blown down during a gale of the previous week. The other nests along this road were as follows: In the open country east of Outlook the nest shown in figure 19 was found on the top of a hay-derriek. The old nest in the same box showed that it had been used similarly the previous season. Three pairs of birds were seen near Outlook, the nests of which remained undiscovered. Two were in poplar windbreaks. An Eastern Kingbird's nest was found twenty feet up in a black locust east of Outlook. This nest, contrary to the habits of the Arkansas Kingbird, was well concealed by foliage. Thirteen other nests were seen, six in poplars, two in black locusts, three in hay-derrieks, each of which stood in a large alfalfa field and each of which had been destroyed dur-

ing haying, and two in mulberry trees. These were the lowest nests found, one being only eight feet off the ground, while the other eleven ranged from twenty to forty feet up. Also one of this last two was built in a last season's Oriole nest. Such a site is recorded by Dawson in his "Birds of Washington". This nest is shown in figure 20. The new material of stems, hair, wool and feathers put in by the new tenants made a striking contrast to the blackened exterior of the old nest. This nest contained but one young bird, less than a week old. As mentioned previously, a violent storm had passed over this region the week before, and this nest, made too shallow by recent padding of the Kingbirds, saddled as it was to a slender upright branch, had evidently dumped the other young during the gale.



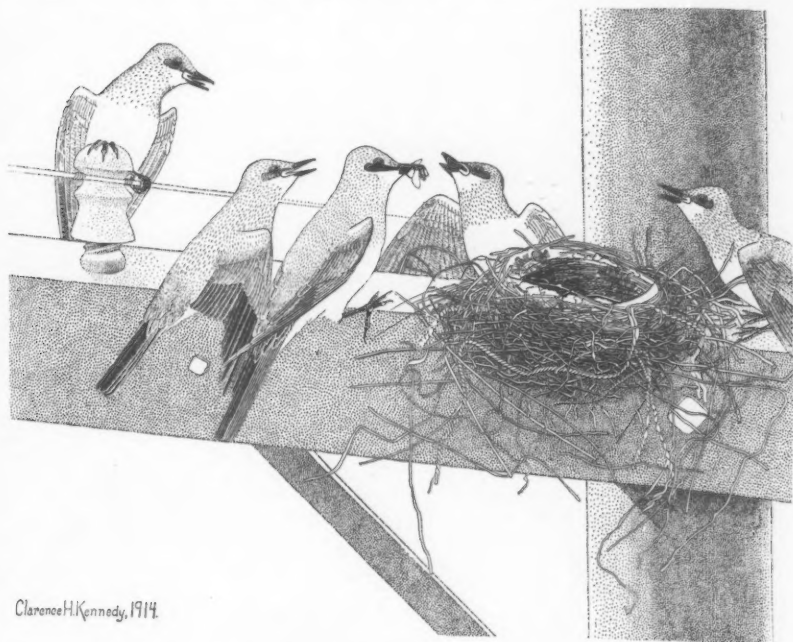
Fig. 20. AN ARKANSAS KINGBIRD'S NEST IN AN OLD NEST OF THE BULLOCK ORIOLE

On the return trip past the Outlook school, three nests were found in the black locusts bordering the school grounds, one of these that of the Eastern Kingbird. At three other poplar windbreaks birds were seen, but their nests remained undiscovered.

The nest drawn in figure 21 shows the style of nest usually built on telephone or electric poles. This was situated on Main Street in Sunnyside, and was the exception that shows the fallacy of rigid rules, for several large poplars stood near and were apparently unoccupied by Kingbirds.

Some general observations might be recorded. The Kingbirds seemed to rear but the one brood. The nests were built of small light trash, straws, string, feathers, weed rootlets, and wool (this is a sheep country where every

barbed wire fence is spotted with pieces of wool torn from passing flocks), and lined with hair and feathers. Always loosely built, the nest appeared to depend on the rigidity of its support for protection from blowing down, rather than on firm attachment to its support. More nests were placed in a three or four branched fork against the trunk of the tree than in any other situation. Such a location appeared entirely safe against wind. Except in the case of the Eastern Kingbird, no attempts at concealing the nest seemed to be made. The Arkansas Kingbird, especially, seemed to desire rather than concealment a nest in an exposed place, where it could alight easily, untroubled by foliage. This latter desideratum is probably one of the factors figuring in the Kingbirds' use of electric poles and hay-derricks as nesting sites.



Clarence H. Kennedy, 1914.

Fig. 21. AN ARKANSAS KINGBIRD'S NEST ON A TELEPHONE POLE

The use of a box for a nest, as in figure 19, made me think that perhaps Kingbirds could be encouraged to nest near dwellings, and so the following year I nailed an open box on the top of my barn. A pair of Kingbirds hung about it one day, but paid no further attention to it.

To sum up, the Arkansas Kingbird seems to prefer as a nesting site a fork near the trunk or a main limb of a large tree, such a site being from fifteen to forty feet above the ground, and exposed or easily accessible on the wing. Because of the abundance of natural food in the newly irrigated sections, the Kingbirds have entered these areas from their previous haunts among the cottonwoods of the watercourses and have adapted their method of nesting to the treeless conditions. In the very new districts they have nested on hay-

derrick and electric poles, as on the two-mile electric line between my ranch and Sunnyside, but have returned to their former nesting sites in trees when possible as is shown by the absence of nests in the ten-mile electric line between Sunnyside and Granger, which runs through an older section of the valley which is now abundantly supplied with large trees.

Coincident with this adaptation, though, can be pointed out the great mortality among the young birds in the incompleteness of the adaptation, practically total in the hay-derrick nests, and high in the electric pole nests, in the latter because of the insecurity against winds. A perfect adaptation would avoid the derricks, which are death traps during haying, and would result in building a nest securely enough fastened on an electric pole to avoid blowing down during storms.

Palo Alto, California, January 29, 1915.

NESTING OF THE AMERICAN OSPREY AT EAGLE LAKE, CALIFORNIA

By MILTON S. RAY

WITH FOUR PHOTOGRAPHS BY THE AUTHOR

DURING the past season's work afield (1914) Chase Littlejohn and the writer traveled something over a thousand miles. One of the many side trips taken was from Susanville to Eagle Lake and back, in company with Mr. Frank P. Cady, the district's game warden. As we were engaged in gathering certain data for the Fish and Game Commission, in addition to our own personal field-work, Mr. Cady aided us in every way possible, besides placing his motor car at our disposal.

Although we arrived at Truxell's on the east-central shore of Eagle Lake at dusk on May 16, it was not until we reached Schuler at the northern end of the lake, at noon next day, that we saw our first American Osprey (*Pandion haliaetus carolinensis*). The occurrence of this species was of particular interest to me as Eagle Lake is one of the few points in inland California from which the bird has been recorded as not uncommon during the summer.

On account of the bad condition of the roads we left the motor car at Schuler and continued on to Spalding's, our final destination, by motor boat. At Spalding's, which lies in heavy timber on the southwestern side of the lake,



Fig. 22. NEAR SCHULER, AT THE NORTH END OF EAGLE LAKE. THE REGION HERE IS BUT SPARSELY TIMBERED, IN STRIKING CONTRAST TO THE CONDITIONS AT THE LOWER END OF THE LAKE

and which we reached early in the afternoon, several other Fish-hawks were noted and during the afternoon's ramble I caught sight of the nest of one at the top of a lofty dead pine in a grove of dead trees standing out in the deep water of the lake. Shortly afterward I saw the sitting bird fly off uttering the characteristic clear whistling cry. Being unable, however, to secure a satisfactory photograph of the nest from shore, Chase and I journeyed back to camp and later revisited the spot in a clumsy flat-bottomed boat. This, the



Fig. 23. NEST OF THE AMERICAN OSPREY AT EAGLE LAKE, SITUATED 112 FEET ABOVE THE WATER. IT CONTAINED THREE EGGS ON MAY 17, 1914

only boat we were able to procure, had been used in spearing fish and had a huge iron basket for burning pine cones suspended from a tall pole at the bow. Although the distance was short our craft was so slow that by the time the nest-tree was reached it had grown too dark for picture taking. As we came up an Osprey flew off the nest, and, as the tree in which it was situated, except for its extreme height and deadness, presented no other unusual difficulties, I decided to attempt the climb in order if possible to definitely record its con-

tents. In going up many limbs snapped without warning and it behooved me to proceed very cautiously. After a hard climb, in some respects among the most difficult and dangerous I have ever made, I reached the nest at the top of the pine 112 feet up. The huge affair, of pine boughs and twigs, about four feet across, was so situated that it was difficult to see into the nest cavity itself. After some maneuvering, however, I succeeded in getting slightly above its outer edge and in peering over, when three eggs on an almost level bed of soft green moss, mixed with pine needles and bits of wood, met my gaze. The eggs were apparently but slightly incubated, and while heavily marked were in no wise peculiar.

Next morning, accompanied by Mr. Cady, the locality was revisited and the photographs shown herewith, taken. I endeavored to get a picture of the



Fig. 24. THE SECOND OSPREY'S NEST FOUND. IT WAS 75 FEET UP, IN A DEAD PINE STANDING IN DEEP WATER AT THE EDGE OF AN ISLAND

bird as she returned from time to time to the nest, but in this I was not successful as the constant swaying of the boat made photography of any kind rather difficult.

Although we only rowed a short distance from Spalding's, five more occupied nests of the Osprey were noted. The lake shore here is a succession of coves and it is an interesting fact that the nests were spaced about equidistant from one another. The second nest was 75 feet up in a dead pine standing in deep water at the edge of an island. As the head of a sitting Osprey was scarcely discernible on the ground glass, the bird was roused, and while Cady and Littlejohn explored the upper end of the island, with camera set I awaited the bird's return. The picture shows the parent, with pendant legs, just dropping into the nest. At the upper end of the inlet another nest, 60

feet up at the top of a limbless dead pine, was noted and on the opposite side of the cove two more were seen in similar situations 50 feet and 35 feet up, respectively. A photograph is shown of the latter nest, and it well illustrates the construction and situation of the other two.

Crossing a narrow neck of land I came to a second cove and although I went but a few hundred feet I came to another nest 50 feet up. This, like all others, was in a dead pine and similar in situation to the second nest found. If the balance of the timbered coves on the lower end of Eagle Lake harbor



Fig. 25. THE FIFTH OSPREY'S NEST FOUND. IT WAS BUT 35 FEET ABOVE THE WATER OF EAGLE LAKE

as many homes of the Osprey as do those near Spalding the number of these birds in the region must be surprisingly large, and as this, so far as I know, is the only definite inland breeding area in California, it becomes a point of particular interest and deserving of especial protection from hunters who usually regard all Raptores with disfavor. The Eagle Lake region at present is very sparsely populated and I was particularly impressed with the distinctly primeval conditions of its birdlife, the great tree colonies of Great Blue Herons

(*Ardea herodias herodias*) and Farallon Cormorants (*Phalacrocorax auritus albociliatus*); the vast ground colonies of American White Pelicans (*Pelecanus erythrorhynchos*); its settlements of California Gulls (*Larus californicus*); and most of all, and long to be remembered, the wild-crying Ospreys in the great forests of virgin timber, and their huge nests in the lofty dead pines.

San Francisco, California, December 15, 1914.

NOTES ON MURRELETS AND PETRELS

By ADRIAAN VAN ROSSEM

WITH ONE PHOTO BY L. HUEY AND TWO PHOTOS BY A. HILLER

THOUGH the primary object of this paper is the discussion of some fall specimens of Murrelets taken between San Diego, California, and Los Coronados Islands, Lower California, I deem it advisable to incorporate

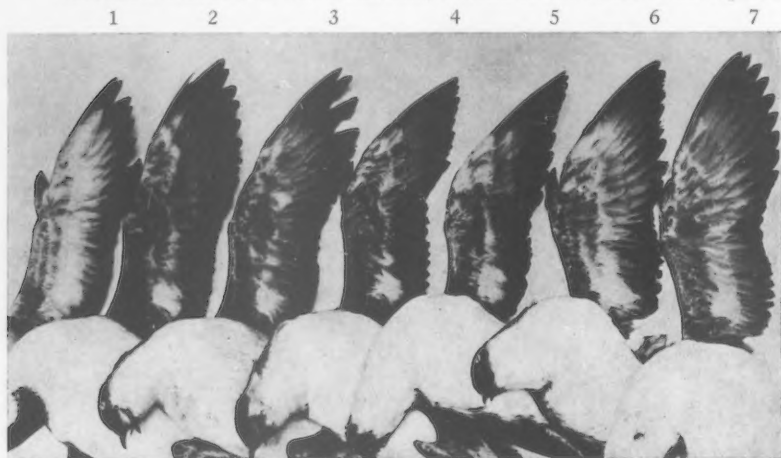


Fig. 26. SPECIMENS OF *Brachyramphus hypoleucus* (NO. 1) AND *B. craveri* (NOS. 2-7), SHOWING COLOR OF WING-LININGS

also some notes on the Black and Socorro Petrels which breed on the Coronados in company with the Xantus Murrelet and have also been more or less closely associated with it in much of the recent literature on the Islands.

When on August 13 of the present year Mr. Laurence Huey and the writer made a flying trip to Los Coronados with a view to collecting a series of young petrels, seven murrelets were taken in the channel about midway between San Diego and the Islands. Of these, one is unmistakably *Brachyramphus hypoleucus*, while the others, after careful attention to the distinguishing characteristics as given by Mr. William Brewster in his "Birds of the Cape Region of Lower California", I have no alternative but to label *Brachyramphus craveri*.

The accompanying illustration (fig. 26) shows very nicely the distinction

between the two species so far as the under wing-coverts are concerned. It is hardly fair, however, to use no. 1 as *typifying hypoleucus*, as it has the darkest wing lining I have ever seen out of a hundred odd birds handled in the flesh. Typical specimens with the wing lining immaculate are, on the Coronados at least, decidedly in the minority, most of the birds having concealed dusky bases to the feathers. In a dried skin this condition is not readily discernible, which may be the cause of the general belief that *hypoleucus* always has immaculate under wing-coverts. The unusual degree of clouding

in the figured specimen is probably by reason of the immaturity of the bird. The coloration of the wing linings of nos. 2-7 inclusive may be briefly described as a mottling of smoky brown, dark ashy and seal brown on a grayish white ground, except for the irregular spot near the base of the wing which is pure white.

Of the specimens shown, nos. 2, 3, 6 and 7 are adults, and nos. 1, 4 and 5, birds of the year. However, as all have completed the fall moult (except for a few old summer feathers as noted farther on) it seems permissible to use adults and young alike for purposes of comparison. Using, then, no. 1 as representing *B. hypoleucus* and nos. 2-7 inclusive as examples of *B. craveri*, the following constant dissimilarities (exclusive of the under wing-coverts) will readily be observed. The upper parts of the two species at first glance appear identical in shade and luster. Closer examination, however, shows *craveri* to be slightly but noticeably duller and browner on the sides of the face, neck

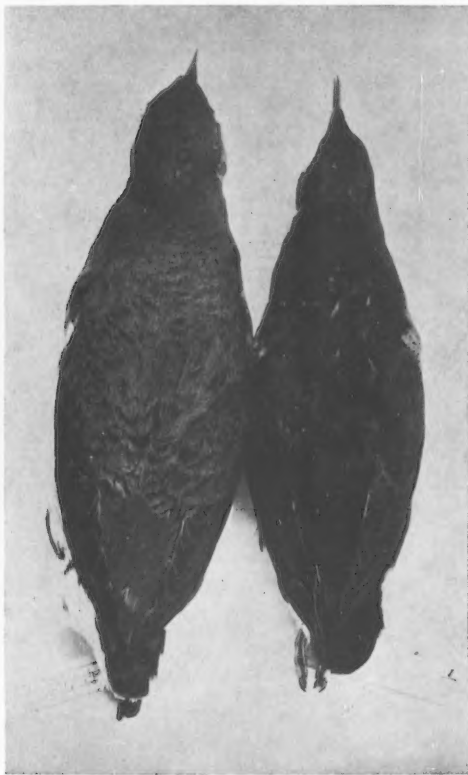


Fig. 27. SPRING (LEFT) AND FALL (RIGHT) SPECIMENS of *Brachyramphus hypoleucus*

and body; moreover the dorsal plumage on being disarranged shows a decided brownish tendency, though this is obscured by the lighter tipping which is the same clear slate as in *hypoleucus*. The latter exhibits leanings in the same direction but in a much less degree, the brownish tinge being almost unnoticeable. A few old feathers still remaining unshed along the edge of the wing and on the shoulders of the adults would indicate beyond a doubt that the summer

plumage of these specimens was very different from that of *B. hypoleucus*, these feathers being of a shade about intermediate between hair brown and seal brown. In this regard it may be appropriate to mention that I have never seen any breeding specimens of *hypoleucus* that are clear slaty. A slight brownish cast is apparently always present, most decided on the wing quills and tips of the scapulars though the whole dorsal plumage is slightly suffused particularly in the more worn specimens. In the case of nos. 2-7 the unicolored feathers on the sides of the body and flanks greatly outnumber the variegated ones, while with *hypoleucus* the exact opposite is the case. The general effect is much the same, in other words in both species the parts mentioned have a mottled appearance, but from a different cause. An individual feather in the case of *craveri* is, when followed up, usually found to be either dusky or white, and the mottling results from the intermingling of these feathers, but in *hypoleucus* the same effect is obtained (generally speaking) by reason of the individual plume being bicolored.

Aside from the smaller feet and bills no differences are discernible between the two birds of the year and the four adults (of *B. craveri*) except a more blackish cast to the dorsal plumage apparently by reason of the tipping being of a slightly darker shade. Figure 27 will give a good idea of the difference in shade between the breeding and fall plumage of *Xantus Murrelet*.

To sum up the situation, nos. 2-7 may be referred to *B. craveri* for the following reasons:

B. hypoleucus

Wing lining immaculate or nearly so.
Concealed portions of dorsal plumage with faint brownish cast.
Side of head, neck and body blackish slate.
Unicolored feathers on sides of body in minority.
Worn summer feathers light slaty with faint brownish suffusion.

B. craveri

Wing lining heavily clouded and mottled.
Concealed portions of dorsal plumage with strong brownish cast.
Sides of head, neck and body brownish slate.
Unicolored feathers on sides of body in majority.
Worn summer feathers about intermediate between hair brown and seal brown.

The petrel colony on Los Coronados is, I am happy to state, apparently gaining in numbers each year. Messrs. Grinnell and Daggett on their visit to the Islands, August 6 and 7, 1902 (*Auk*, XX, 1903, pp. 27-37) make no estimate of the numbers of either Socorro (*Oceanodroma socorroensis*) or Black (*Oceanodroma melania*) petrels breeding there at that time, but state that twenty-four adults of the former and four of the latter species together with many young and eggs were taken in an afternoon's hard work. From what I have seen there the present season, it would now be rather a simple matter for two persons to obtain upwards of fifty adult Socorro Petrels in the same length of time on the same date. This refers to the main colony; but small branch colonies have sprung up wherever sufficient soil is available to burrow in. In many instances this year no burrow at all was dug, the birds simply worming their way under the dense bushes to lay their eggs.

Another matter of surprise to me is the fact that Messrs. Grinnell and Daggett found *socorroensis* breeding on North Island, a condition which is certainly non-existent at the present time, though *melania* nests there in considerable numbers. Possibly the hordes of Cassin Auklets (*Ptychoramphus aleuticus*) which infest the island in the breeding season, as well as a mouse (*Peromyscus* sp.) which also abounds there, have at last driven *socorroensis* to take refuge on the smaller Middle Island, which place now seems to be their sole

breeding ground on the islands. Just why the Socorro Petrel should be forced out by the above mentioned vermin (*if* such be the case), while the Black Petrel persists in abundance, is a question which for the present must remain unanswered.

Black Petrels nest on all of the group with the exception of South Island and in aggregate numbers probably exceed the Socorros, though their habit of nesting in isolated pairs or at best small scattered colonies renders them much more difficult to obtain. Another factor which adds to the difficulty of collecting them is that very frequently the nesting site is under some great boulder or in a narrow, inaccessible crevice in a rock wall. I am morally certain that, on these islands at least, although the Black Petrels occasionally do use burrows, these are not excavated by the birds themselves, but are merely abandoned ones of Socorro Petrel or Cassin Auklet. The normal site is a nat-

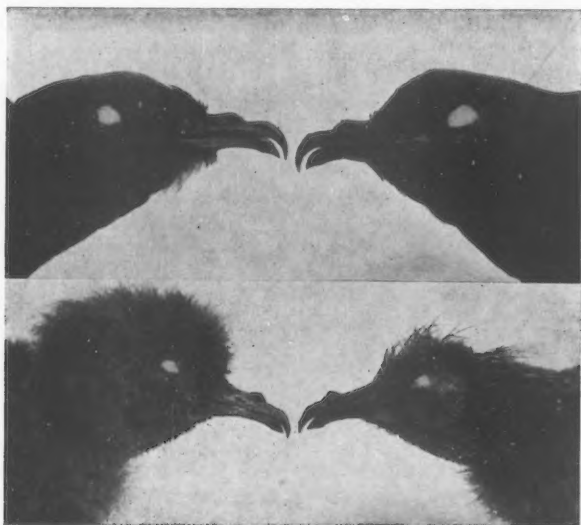


Fig. 28. ADULT AND YOUNG PETRELS: *Oceanodroma socorroensis* AT LEFT; *O. melania* AT RIGHT. THE LARGER SIZE OF THE BILL OF THE LATTER IS EVIDENT, EVEN IN THE YOUNG

ural one, such as a cranny in a rocky wall, beneath misplaced slabs of rock, in dark caves, or even under heavy bushes, sharing this last situation with *socorroensis*, birds of each species sometimes being found within a few inches of each other.

The young of these two petrels are very similar in appearance. When first hatched the bills, tarsi and feet are a dirty pinkish, gradually darkening as the birds grow older till by the time they are the age of those figured (about two weeks) the parts mentioned are the solid, shiny black of the adults. Even in newly hatched chicks the difference in bills is plainly visible (see fig. 28), and no difficulty should be experienced in distinguishing the young even in the field should a young Black Petrel be taken from a Socorro burrow. The natal down is at first a light smoky gray, changing as the bird develops to

dark, almost blackish, smoky gray, possibly from continued contact with the dark peaty soil, though I am inclined to believe the change a natural one. In *melania* this down is a shade lighter than in *socorroensis*, which strikes one as rather peculiar considering that in later life *melania* is the darker of the two.

As for the great variation in the amount of white (or total absence of it) to be found on the rump of *socorroensis*, I prefer to leave that point to others infinitely more competent to discuss it than I am. However, it may be mentioned that earlier in the season (late June, 1913) the majority of birds showed at least a trace of white, while of those taken August 13 of the present year only about one in four showed the above mentioned character.

Pasadena, California, September 10, 1914.

BIRDS OF A BERKELEY HILLSIDE

By AMELIA SANBORN ALLEN

WITH FOURTEEN PHOTOGRAPHS ON SEVEN FIGURES

FOR the past three years I have been living in Strawberry Canyon. Our house is in the middle of a dense grove of young live-oak trees, on the southern wall of the canyon opposite the University dairy, and to the



Fig. 29. GENERAL VIEW OF STRAWBERRY CANYON LOOKING EAST, SHOWING THE LOCATION OF THE HOUSE (UPPERMOST) AND ITS SURROUNDINGS

Photo by Amelia S. Allen.

south and west of the swimming pool. The house faces south and up the hill. To the west are three unimproved lots, one of woodland, the others partly open, with several rather large pine trees. To the north and east the oak forest is continuous, interspersed with bay trees; and there is a dense undergrowth of hazel, cascara, poison oak, spiraea, wild rose, snow-berry, wild currant, blackberry and brakes, with thimble-berries and wild parsnip filling the cross ravines. On the eastern side, our lot is bounded by the University cam-

pus, where no shooting is allowed at any season. On the hill-slope above us, to the south, are only a few scattering oak trees, but there is an almost impenetrable thicket of spiraea and hazel brush, protected by a high bank formed by the cut for the road, which makes an ideal nesting site for the birds.

The hill as it slopes to the west, outside the canyon, is covered by an old orchard and some garden shrubs, with one date-palm and a group of pine and cypress trees on the terrace which overlooks the city and the Golden Gate.

From the whole of the region described the English Sparrows are absent except as fall gormandizers. During September, October and November, thousands of them come up from the town below into the old orchard, where they feed on weed seeds and remnants of the scant crop of the diseased trees. Occasional reconnoitering parties have appeared in the spring-time about our house, but they have not met with a hospitable reception.

The birds of this hillside region fall naturally into two groups: (1) those found more commonly in the orchard and on the more or less open slope to



Fig. 30. GOLDEN-CROWNED SPARROWS. AT THE LEFT IS SHOWN ONE ON THE RAILING; AT THE RIGHT THREE GOLDEN-CROWNS AND ONE SONG SPARROW (ABOVE ON TWIG)

Photo at left by Amelia S. Allen; at right by T. I. Storer.

the west; and (2) those which show a decided preference for the closely forested and brush-covered area of the north-facing slope immediately about the house. A small number seem equally at home in both sections, as, for example, the Red-shafted Flicker, California Blue Jay, California Towhee and Hermit Thrush.

The raptorial birds of the western group include the Sparrow Hawk (*Falco sparverius sparverius*), which is almost always to be found in the winter season surveying the field from the top of one of two telephone poles, upon which it elects to perch. Western Red-tailed Hawks (*Buteo borealis calurus*) soar above in the illimitable blue on wings of strength. While at night the three owls (*Aluco pratincola*, *Otus asio bendirei*, *Bubo virginianus pacificus*) make the darkness visible by their cries.

The Anna Hummingbird (*Calypte anna*) knows everything that happens in the whole area the year around, and every summer the Allen Hummingbird (*Selasphorus alleni*) guards its nest from the same lookout on the same electric-

wire. I suspect the cypress-trees across the way of harboring the tiny nest. If so, I hope that it has been as safe from hawks and jays as from any intrusion on my part.

The only flycatchers I have noticed in the western tract are the Black Phoebe (*Sayornis nigricans*) and the Say Phoebe (*Sayornis sayus*). The Black Phoebe often makes its presence known by its call, but I seldom hear an answering call. One spring day, however, I surprised two indulging in courtship antics. The Say Phoebe was noticed once in the winter of 1912-13, and has been seen repeatedly this winter.

The Flickers (*Colaptes cafer collaris*) and Jays (principally *Aphelocoma californica californica*) are continually flaunting their bright colors in the cypress and red-wood trees. Occasionally a Varied Thrush (*Ixoreus naevius naevius*), in its quiet dignity, puts them both to shame.

A few Meadowlarks (*Sturnella neglecta*) still nest in the old orchard, but encroaching civilization has driven most of them to the other side of the canyon.

Many of the members of the sparrow family seem to choose the western area, either for winter feeding or summer breeding. In the winter of 1912-13, Mosswood Road was being graded and macadamized. This of course meant that men and horses were taking their noonday meal there; and afterward a feast of bread-crumbs and grain was left for the birds to enjoy. The little Rufous-crowned Sparrows (*Aimophila ruficeps*) from the canyon to the south joined the Intermediate (*Zonotrichia leucophrys gambeli*) and Nuttall Sparrows (*Z. l. nuttalli*) at mealtime. Add to these three species a stray Harris Sparrow (*Z. querula*), which seems to have come with his cousins from the north to enjoy a California winter—could a bird-lover ask for a more interesting group to study? In the old orchard trees, the Linnets (*Carpodacus mexicanus frontalis*), Green-backed Goldfinches (*Astragalinus psaltria hesperophilus*), Black-headed Grosbeaks (*Zamelodia melanocephala capitalis*), and a Lazuli Bunting (*Passerina amoena*) fill the summer air with rapturous song. A few ornamental olive trees with fruit ungarnered assure Purple Finches (*Carpodacus purpureus californicus*) all the year. Their spring sunset song, from the top of the tallest cypress tree, certainly evens up the account for the whole olive crop. Flocks of Pine Siskins (*Spinus pinus pinus*) circle from weed patches to pine trees, while Sierra Juncos (*Junco oreganus thurberi*) feed on the rag-weed under the cypress trees and the chick-weed under the oaks. Both the California and San Francisco Towhees (*Pipilo crissalis crissalis* and *P. maculatus falcifer*) range over the whole hillside, the latter being more numerous in the oak forest.

One of the few remaining colonies of Cliff Swallows (*Petrochelidon lunifrons lunifrons*) in Berkeley still nests at the top of the western slope. Their main source for nest-building material has been destroyed this winter; and unless another unknown base can be developed or an artificial one substituted, we may miss their circling flight next summer.

During the winter months Audubon Warblers (*Dendroica auduboni auduboni*) abound in the old orchard, Nuthatches (*Sitta canadensis*) sound their reeds in the pines and oaks, Ruby-crowned Kinglets (*Regulus calendula cinereus*) chatter and sing and glean through the trees, and the Hermit Thrush (*Hylocichla guttata nanus*) makes himself a familiar garden companion.

In the summer-time two pairs of House Wrens (*Troglodytes aedon parkmani*) do enthusiastic housekeeping behind the shingles of hillside cottages. Vigors Wrens (*Thryomanes bewicki spilurus*), Bush-tits (*Psaltiriparus minimus minimus*), and Wren-tits (*Chamaca fasciata fasciata*) are permanent residents.

The second group of hillside birds, those which choose the environment of the dense oak forest in the midst of which we built our house, have been the source of great pleasure to us and to our friends. A very little effort on our part has brought abundant returns, as the following paragraphs will prove.

The hill slopes in a very convenient way in front of a large window, and there we have built a rough drinking-fountain with a few bricks and cement-mortar. This was accidentally made quite after the approved plan, being off level just enough so that the water varies in depth from half an inch to two inches. On the ground between the drinking-fountain and the window, during the winter months, I throw out crumbs and apple-skins, and on the porch-railing, which is about four feet from the window, I scatter canary-seed and crumbs. I would limit the feeding-space to the railing, were it not for the rabbits which watch the birds with longing eyes when there is no food on the ground. I have not yet made a practice of putting out food to attract the

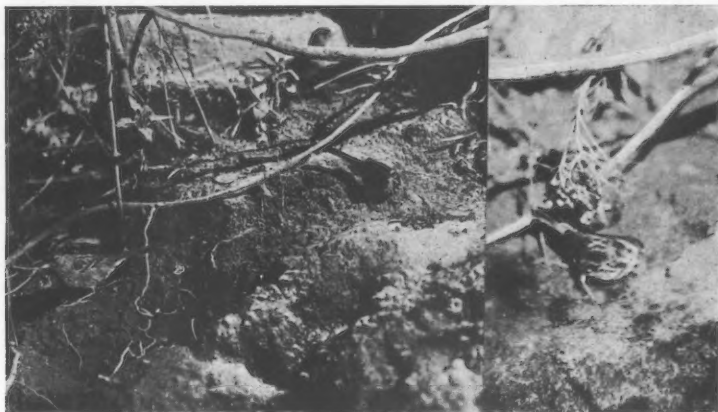


Fig. 31. SANTA CRUZ SONG SPARROWS FEEDING ON CANARY SEED. THE STRIPES ON THE HEAD AND SPOTS ON THE BREAST, AS WELL AS THEIR SMALLER SIZE, DISTINGUISH THEM FROM THE GOLDEN-CROWNED SPARROW WHICH APPEARS IN THE LEFT-HAND PICTURE

Photo at left by T. I. Storer; at right by Amelia S. Allen.

insect-eating birds. In 1911 the trees were suffering terribly from the ravages of the green cut-worm. The University sprayed a few of the trees; a long-handled broom destroyed the myriad cocoons, which were formed under the edges of the shingles and on the tree-trunks; and the birds did the rest. This winter the trees are in excellent condition.

Quail (*Lophortyx californica californica*), of course, are very abundant, and very tame. One of their favorite roosts in the summer-time is in a tree which had to be cut away in part to make room for the house. In the hot October days an entire brood took their noonday siesta in and about the drinking fountain.

One evening we were surprised by a visit from a Barn Owl which came down through the chimney, Santa Claus fashion. He attempted to alight on some oak branches which adorned the mantel, but found that they would not support his weight. He then chose the top of a door, flew from that on to a

curtain-rod, then to a window-sill on the opposite side of the room, and out to freedom through an open door, all without breaking any of the bric-a-brac.

With the exception of the Red-shafted Flicker, woodpeckers are not abundant, one each of the Nuttall (*Dryobates nuttalli*) and the California (*Melanerpes formicivorus bairdi*) having been seen from the window.

Of the flycatcher group, the Black Phoebe makes itself heard constantly from the direction of the swimming pool; the Western Flycatcher (*Empidonax difficilis difficilis*) is present from the first of April until after the first of October; the Olive-sided Flycatcher (*Nuttallornis borealis*) was often heard from a favorite perch at the end of the road during the summer of 1913, but did not return to us last year.

I anticipated that the California Blue Jays would give some trouble about the feeding ground, but their behavior so far has not been very objectionable. They appear only when I put out rather large pieces of bread, which they carry off and bury. They seldom attack the other birds, perhaps because it is not necessary; for they are so noisy and blustering that the smaller birds



Fig. 32. YAKUTAT FOX SPARROWS ON THE PORCH RAILING. THE PECTORAL BLOTCH SHOWS DISTINCTLY IN THE LEFT-HAND PICTURE. THE SHORT, THICK BILL, SHORT LEGS, STOCKY BUILD, AND GENERAL BELLIGERENT ATTITUDE DISTINGUISH IT FROM THE THRUSH
Photos by Amella S. Allen.

naturally make way for them. The rabbits and the Thrashers, however, hold their own with them, the former even coming to blows with the jays at times. The Steller Jays (*Cyanocitta stelleri carbonacea*) make themselves heard constantly from the neighborhood of the dairy, but I have seen them from the window only twice.

The Golden-crowned Sparrows (*Zonotrichia coronata*) take the prize for percentage of increase on the feeding-ground. The first winter (1911) only one appeared daily. This year seven come regularly, four being birds of the year. The Sierra Juncos in other seasons have been commonly seen about the garden, especially in the patches of chickweed under the trees. They seemingly are not attracted by the bill of fare offered on the feeding-ground, but often come to bathe. The Santa Cruz Song Sparrow (*Melospiza melodia santacrucis*) is an ever-present guest. It eats as long as there is a crumb to be found, and bathes repeatedly as long as the supply of water lasts. Recently a Rusty Song Sparrow (*Melospiza melodia morphna*) has appeared daily. The Fox Sparrow (*Passerella iliaca meruloides*) is a regular and rather belligerent patron of the lunch-counter. Either crumbs or seeds suit its taste, and it

shows no more fear than do the other sparrows about coming to the porch railing for food. The habit of scratching for its food seems to be so firmly fixed that it usually scratches among the crumbs before picking them up. The California Brown Towhee is never missing at meal-time, and is ready with a protest, if meals are not on time. Of the Brown Towhees there are seldom more than two on the feeding-ground, while of the San Francisco Towhees there are more often four. In the late summer, the San Francisco Towhees brought their young up onto the railing to feed. But they are still the wild birds of the species, and take alarm at the slightest movement of a window or curtain.

I often see Hutton Vireos (*Vireo huttoni huttoni*) in the oak trees and occasionally about the drinking fountain, particularly in October and November. The Warbling Vireo (*Vireosylva gilva swainsoni*) nests down nearer the bottom of the canyon. The Lutescent Warblers (*Vermivora celata lutescens*) are very abundant during the summer. There must be from four to six pairs nesting within a hundred yards of the house each year. It would be difficult

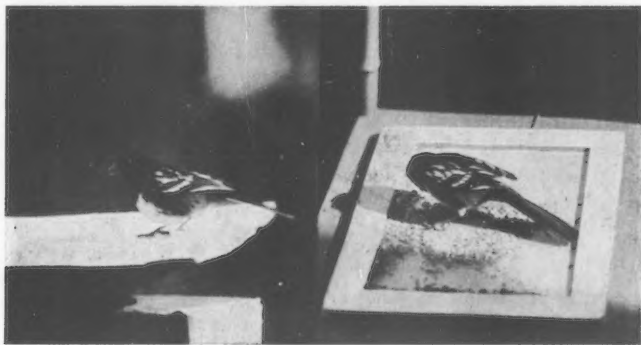


Fig. 33. THE SAN FRANCISCO TOWHEE FEEDING ON CANARY SEED. NOTE THE BLACK CHEST CONTRASTING WITH THE GRAY BREAST. THE LEFT HAND PICTURE SHOWS THE IRIS RING, WHICH WAS BRIGHT RED IN COLOR

Photos by Amelia S. Allen.

to calculate their value. Five cut-worms in five minutes was the estimate I made as I watched one last summer. A flock of Black-throated Gray Warblers (*Dendroica nigrescens*) was seen in the fall of 1912 in company with many warbling vireos. They remained for several days. The Townsend Warblers (*Dendroica townsendi*) I see only occasionally from the windows. Just before they migrated last spring, they were present in numbers in the oaks on the hillside above us, and were in full song. With them were kinglets and juncos. The MacGillivray Warbler (*Oporornis tolmiei*) was seen and heard just beyond the end of Mosswood Road last summer. One pair of Pileolated Warblers (*Wilsonia pusilla pileolata*) has nested each season about a hundred yards east of the house.

The California Thrasher (*Toxostoma redivivum redivivum*) has been one of the most interesting of the birds that have come regularly to the feeding-ground. There is nothing leisurely about him, and he is certainly not a "Fletcherite". I felt quite triumphant when he, too, came to the railing for

food. He is so fond of California holly-berries, that he flew against the window twice one morning, in his effort to reach a bunch in a vase within.

A pair of Vigors Wrens (*Thryomanes bewicki spilurus*) have nested about the house each year. This year the nest was under the edge of a tarpaulin which covered the water-tank. They raised five young. I sat down at the bottom of the tank one day when the young were being fed, to see if they would become accustomed to my presence. The female readily adapted herself to the situation, but she had to give very peremptory orders to her spouse, before he could be induced to bring his worms to the door-way and deliver them to her.

The Plain Titmouse (*Bacolophus inornatus inornatus*) I see and hear very often. The Wren-tit is perhaps the least suspicious bird on the feeding-ground. While the other birds wait at a distance for me to close the door after putting out the food, he comes chattering through the bushes and begins his meal. He seems ill at ease on the railing, but I believe that this is due not so much to his proximity to the window as to the fact that he has no twig to cling to. He



FIG. 34. INTERMEDIATE WREN-TITS. THE LONG, UP-TILTED TAIL AND THE COMPARATIVELY SHORT STRAIGHT BILL, AS WELL AS LARGER SIZE, ASSURES ONE THAT IT IS NOT A WREN

Photos by T. I. Storer.

always approaches the feeding-ground making the noise which Dr. Grinnell has likened to the sound made by rubbing together two sticks. Bush-tits are all about us. During the hot days in the fall, it is a treat to watch them about the drinking fountain. As many as can do so get into the water; the others sit in the nearest bushes awaiting their turn.

Ruby-crowned Kinglets are frequently seen and heard. Two of them come often to the drinking fountain to bathe or drink. The Golden-crowned Kinglets (*Regulus satrapa olivaceus*) appear occasionally. For three winters I have found the Western Gnatcatcher (*Poliophtila caerulea obscura*), but this year I have not heard its note.

We enjoy the song of the Russet-backed Thrush (*Hylocichla ustulata ustulata*) through the summer, while the Hermit Thrush makes itself very much at home about the house during the winter. The first year I was a little vexed when I found the Christmas wreath on the front door minus all of its

red berries, but since then I have been very careful to see that no red berries are burned. This year a kindly florist has helped out by donating several quarts of loose berries. The Robins (*Planesticus migratorius propinquus*) are never about in numbers, but I often hear their calls from the tops of neighboring trees. The Varied Thrushes were quite numerous during the winter of 1911, a flock of them feeding daily in the wood-lot to the west of us. Since then I have seen only stragglers until this winter, when they have been more numerous.

This finishes the list, and I will add only one or two notes as to the number of birds that come regularly to feed. The best results have been obtained



Fig. 35. DWARF HERMIT THRUSH, FEEDING ON LOOSE CALIFORNIA HOLLY BERRIES IN A SAUCER. NOTE THE LONG, SLENDER LEGS, LARGE EYES, AND SLENDER BILL

Photos by Amella S. Allen.

when they have been fed regularly about eight in the morning. The numbers increase from October to January. The maximum flocks last year consisted of two Blue Jays, two California Towhees, four San Francisco Towhees, four Song Sparrows, two to four Fox Sparrows, three Thrashers, two Wren-tits,—and three to four Brush Rabbits. This winter the totals are about as follows: two Blue Jays, two California Towhees, five San Francisco Towhees, four Fox Sparrows, four Santa Cruz Song Sparrows, one rusty Song Sparrow, seven Golden-crowned Sparrows, three Wren-tits, one Thrasher, one Hermit Thrush—and one to four Brush Rabbits.

Berkeley, California, February 11, 1915.

A FORTY ACRE BIRD CENSUS AT SACATON, ARIZONA

By M. FRENCH GILMAN

THE FORTY ACRES on which this bird census was taken in the spring and early summer of 1914, may be described in ten-acre tracts. Of the first ten acres half is devoted to an Indian Day School, which consists of school-house, dwelling and barn, to the school garden, and to an incipient orchard. There are a few young cottonwoods growing here, two umbrella and two mulberry trees, and some young grape vines, date palms and pomegranates; also a few scattered mesquite trees that were topped once and have sent up a second growth. An irrigating ditch runs through the grounds and occasionally has water in it. A horse-trough always filled with water stands in the corral, and is an attraction to the birds. In season I always have some pieces of watermelon in the shade of a young cottonwood, and many birds resort to these for refreshment. The Gila Woodpeckers in particular seem to have developed the watermelon habit to a marked degree. In the hottest weather I try to keep water in a basin hollowed out around one of the young cottonwood trees, and this furnishes drink and a bath to many species. The other half of this ten acres has been partly cleared, but has a few scattered second-growth mesquites, quite an area of salt-bush (*Atriplex polycarpa*), and several clumps of *Lycium fremonti*, or squaw-bush, as it is called locally.

The ten acres lying to the south of the tract just described is in cultivation, wheat, barley, corn and alfalfa being raised on it. Along the fences and ditches on this tract are a few mesquites, squaw-bushes, and some burro-weed (*Dondia torreyana*.) Of the ten acres west of this area about one-third is cleared and partly cultivated, one-third is covered with dense second-growth mesquite mixed with a few catsclaws (*Acacia greggii*), jujube (*Zizyphus lycioides*), *Lycium fremonti*, and three species of salt-bush, *Atriplex polycarpa*, *A. canescens* and *A. lentiformis*. The other third of the tract is sparsely covered with the same sort of growth, but with *Atriplex polycarpa* predominating. The last ten acres of the tract under observation is about the same as the last third section just described, that is, covered with a sparse growth of the plants mentioned.

The following list of nests found probably does not contain all that were occupied during the present breeding season, as I did not make a systematic search of the entire tract until late in the year, and a few of the earliest breeders may have escaped notice. Where there is reason to believe any find is a second set it is so stated.

Oxyechus vociferus. Killdeer. A nest with three eggs found on plowed ground in the school garden. The three eggs hatched and the young probably were safely raised, as I saw them at different times in fields nearby. The eggs were found about April 1, and on June 14 I found three more eggs in the same nest depression. As a Killdeer's nest is easily and quickly scratched out and made ready for occupancy there seems no particular reason for a second set in the same place, unless, from the successful outcome of the first set, the bird considered it a good safe location. Two of this set were hatched, one egg being found with a hole in it the day the young left the nest. This departure seems to take place the same day they hatch.

Lophortyx gambeli. Desert Quail. Five nests were found in the confines

of the school acreage, and one in the northwest ten acres. One of the nests was out in the open near the irrigating ditch, and had no shelter whatever. It was on the gentle slope of a small depression, and children passed near it every day on their way to school. April 7 it had seven eggs in it, and the bird continued to deposit them till May 6, when the eighteenth was in the nest. When I found the nest I was afraid the hot sun would cook the eggs, so threw down a plank in a careless manner nearby. I moved it a little nearer each day until it shaded the eggs most of the time, the old bird apparently paying no attention to the intrusion, as she kept on with the work of filling the nest with eggs. Soon after the set was complete she left the nest, or was caught or killed, as the eggs remained uncared for until May 31, when I took them. It was a job to blow them, as long exposure to the sun had hardened and dried the contents of many.

Two nests were in the school woodpile, containing nineteen and thirteen eggs, respectively. Another, in a pile of short boards and kindling about ten feet from the school woodshed, had seven eggs in it. The nest out in the fields had nine eggs, and was at the base of a *Lycium* bush. About the middle of June I put some straw in an old nail keg, open at one end, and placed it on its side in the forks of a mesquite tree about two feet from the ground. The mesquite had some saplings starting from the trunk that sheltered the keg. June 24 I found that a quail had moved in and had laid two eggs. Later she completed the set, only eight eggs, and successfully hatched all but one. She was quite tame on the nest, and would not be scared off by any mild measures. I tried hammering on the rear of the keg, rolling it gently and talking to her, requesting her to get off and let me count the eggs, but unless I put in my hand at the front of the keg she sat pat.

***Zenaidura macroura marginella*.** Western Mourning Dove. Eleven Mourning Dove's nests were found in the limits of the forty acres. Eight were in mesquites, two in *Zizyphus* and one in a catsclaw bush. The average height was seven feet. The latest date was July 23, when two nests were found, one with fresh eggs, the other with eggs about half incubated.

***Melopelia asiatica trudeaui*.** White-winged Dove. One nest with young was found, and this a few feet outside the limits of the forty acres, though many of the birds fed over the tract. The absence of large mesquite trees was the reason for the lack of nests, as these birds seem to prefer to build higher up in the trees than do the Mourning Doves. Both species frequent the school yard, the Mourning Doves to eat the weed and flower seeds, particularly those of the California poppy, and the White-wings to eat the watermelon I put in the back yard for them.

***Scardafella inca*.** Inca Dove. A brood was raised in a mesquite tree not far from the house, and a second set laid in the same nest June 21. A few days later the eggs disappeared. These little birds frequent houses and yards, but seem slow to come around a new establishment. The house here has been built three years, this being the fourth summer, and the birds have just adopted it. Last summer a pair came and looked it over, staying a few days, and this year they settled here.

***Geococcyx californianus*.** Roadrunner. A nest with four young nearly grown was found on June 7, in a mesquite about five feet from the ground. When I looked into it two of the birds jumped from the nest, and would not stay when put back. The others remained, as they were smaller. Another

nest was found July 11 a few rods away, also in a mesquite, and seven feet from the ground. This nest contained four eggs partly incubated, of which one hatched July 20, the others on the three succeeding days. This would indicate that the bird starts incubating with the first egg. The mother was very anxious about the eggs, and ran around close to me in a mammalian sort of way, flat on the ground, tail dragging, and head stretched out in front only about three inches from the soil. She did not look like a bird at all, and though making no fluttering demonstration, her antics were calculated to excite curiosity and distract attention from the nest. This nest may have been the second set of the owners of the first one found.

Chordeiles acutipennis texensis. Texas Nighthawk. A pair of these birds was flushed in a certain location each trip I made, but no nest could be found. The place was not favorable for finding the eggs, and I firmly believe the birds were nesting there.

Tyrannus verticalis. Western Kingbird. A nest with two eggs in top of mesquite about fifteen feet from the ground. Another with three eggs in young cottonwood tree only eighteen feet from our back door. The location, in the forks of the tree about eleven feet from the ground, was not favorable for nest-building and the wind kept blowing it down until I fastened a few wires for a support. Then a Bendire Thrasher came and tried to take the site away from the Kingbirds. The Thrasher would bring some nesting material, and settle down in the nest. Then the Kingbirds would appear, scolding and trying to drive her away. As long as they kept flying at her she stayed on the nest, but if one came close and alighted she would fluff out her feathers and make a vicious dive at him, or her, as it might be. Had her mate been as much on the job the Kingbirds would have lost out, but he sang and did nothing else, so she finally gave it up, and the Kingbirds raised three young.

Molothrus ater obscurus. Dwarf Cowbird. Two eggs found in the nest of a Plumbeous Gnatcatcher in a Zizyphus bush. Many of the Cowbirds stayed in the barnyard and ate watermelon in our back yard, but they had to search farther afield for more Gnatcatcher's nests.

Agelaius phoeniceus sonoriensis. Sonora Red-winged Blackbird. A pair built a nest in a clump of mesquites at the edge of an alfalfa field, but deserted it, probably to join a small colony nesting in some willows along an irrigating ditch about a quarter of a mile distant.

Icterus bullocki. Bullock Oriole. One nested in a young cottonwood near the house and raised four young. Another had a nest with three eggs about nine feet up in a Zizyphus shrub. Two others were in mesquite trees, eight and fifteen feet from the ground, respectively, and contained four eggs each.

Pipilo aberti. Abert Towhee. Eight nests found, with two and three eggs to the set. Three nests were in mesquites, two in Dondia bushes, two in Zizyphus shrubs, and one in an umbrella tree. The average height from the ground was five and one half feet. One nest was empty, with a blacksnake coiled round it, and the birds in distress nearby. I tried to secure the snake in order to determine how many eggs or young the nest had contained, but he escaped. The latest date was July 23, when three eggs partly incubated were found. This late set may have been a second one.

Cardinalis cardinalis superbus. Arizona Cardinal. A Cardinal raised three young in a mesquite in the dense growth already described, and later, July 1, built another nest and started incubating on two eggs. I watched to

see how long incubating would take, but at about the time the young were due one egg disappeared, while the other had a hole in it and proved infertile. This pair of birds has frequented the yard for two years, and has become quite friendly, coming to a bird table for food and eating the watermelon I put out in the shade. They brought the three young ones to the house and gave them watermelon until they learned to feed themselves.

Phainopepla nitens. Phainopepla. A pair had a nest in a mesquite near the west line of the tract, where they raised two young. They nest most frequently in the old growth of mesquites that have much mistletoe growing in them.

Lanius ludovicianus excubitorides. White-rumped Shrike. A pair raised five young in a squaw-bush along one of the fences. In a mesquite tree not far away I found the hind legs of a young rabbit hung over a thorny branch, but the Shrikes may not have been responsible for this!

Mimus polyglottos leucopterus. Western Mockingbird. A pair raised a brood in the mesquite thicket but I did not find the nest till the young birds had flown. The old ones brought them up around the house for refreshments later, and then probably went to work on a second set, as I found a nest with two eggs July 7 not far from the first one. As it happened, however, this was about fifty yards outside the lines so cannot be counted.

Toxostoma bendirei. Bendire Thrasher. Eight nests were found with three eggs each. Seven were in mesquites and one in a Lyeium, the average height from the ground being eight feet. One pair built a nest in a mesquite at the bottom of the date grove and hatched three young, these leaving the nest about the first of May. The 15th of May the female began fighting the Kingbird for the nesting site as I have already related. After the Kingbirds drove her away she went to her old nest in the mesquite and raised three more young in it, the young leaving the nest July 6. At this date of writing she has another nest in the same tree a few feet from the twice used one, and is incubating three more eggs. She is surely some "mother in Israel". As the other five nests were not close together, possibly none of them were "repeaters". There is one exception that may have been a second set as it was found so late, July 11, though not near any other found before.

The Bendire Thrasher is one bird that from all indications takes kindly to settlement. These birds nest near houses, on which they perch to sing, come into the yards, and seem fearless if not molested. If their natural shelter is cleared up they take kindly to artificial or planted growth and I believe will persist in the face of civilization. All this, of course, provided that they receive some measure of protection and encouragement.

Toxostoma crissale. Crissal Thrasher. Only three nests found, and one of those probably a second set. All were in mesquites at an average height of four feet. This Thrasher is a bird of the underbrush and thickets, and apparently does not take kindly to clearing and farming operations.

Heleodytes brunneicapillus couesi. Cactus Wren. February 15 was the date when the first nest, with four eggs, was found. This was in a brush shed alongside of the school house, used as an outside class room. The rafters were double, about four inches apart, and I had inserted short boards making a horizontal space about ten inches deep and six feet from the ground. Four roosting nests had been built last fall by the pair of wrens, and February 15 a new nest contained eggs. About the last of April the same pair built a nest on

a board wired in a corner under the floor of a water-tank tower about twenty feet high. The pair of Kingbirds before mentioned as having trouble with the Thrasher, tried to take the nest away from the Wrens, but the owners were too persistent and they gave it up. Last year the Wrens had raised a brood in the same place; after the young had left I tore the nest out and the Kingbirds raised a brood. Hence both factions had some rights, the Wrens the prior right, however, which they made good. Four young were raised here, and on July 8 they were started on another set of four. After the first brood had flown from the tank I removed the old nest, and they soon rebuilt. Three eggs of this set hatched, the fourth being infertile. I might say that last year after the young Kingbirds had left the nest, the Wrens built again and incubated four eggs for three weeks. I then decided that the eggs were infertile, which proved to be the case. Besides the three nests of this pair of Wrens, five others were found, four in mesquite trees and one in a *Zizyphus*.

Auriparus flaviceps flaviceps. Verdin. Three nests in the mesquite thicket, two in *Zizyphus* shrubs, and one in a mesquite. They seem to breed usually but once a year, though there may be exceptions.

Poliophtila plumbea. Plumbeous Gnatcatcher. One nest in a *Zizyphus* five feet from the ground, with two Gnatcatcher's and two Dwarf Cowbird's eggs.

A total of sixty-six sets was found on the forty acres, representing eighteen species; this not counting the pair of Redwinged Blackbirds which deserted their nest, the Texas Nighthawk of which the nest was not found, nor the White-winged Dove, just out of bounds.

Sacaton, Arizona, July 25, 1914.

SOME PARK COUNTY, COLORADO, BIRD NOTES

By EDWARD R. WARREN

WITH TWO PHOTOS BY THE AUTHOR

I SPENT the last two weeks of September, 1914, in the western part of Park County, Colorado, collecting mostly mammals but some birds also, and the notes I made in a comparatively little known portion of the State, and at a season when the migratory movements are on, seem sufficiently interesting to be published.

Park County covers the geographical center of Colorado, comprises the well known South Park, and is bounded on the west by high mountain ranges. The place which I made my headquarters, with the exception of the first two days, was Alma, one of the oldest mining camps in the State, at an elevation of 10,235 feet. The first two days were spent at Fairplay, also an old mining camp and the county seat, its altitude being 9,900 feet. It was not very favorably situated for the work I wished to do, therefore I moved to Alma, five miles above, and spent the remainder of my time there.

To reach these places I took the South Park Railroad, a narrow gauge, from Denver, going up the South Platte River 29 miles, then up the North Fork of the South Platte 40 miles farther to Webster, then climbing Kenosha

Hill and dropping down into the South Park at Jefferson. At Coma, a few miles beyond, I changed to a train consisting of an engine and a combination coach and baggage car. Sometimes they take a freight car or two along, but not always. The principal crop in the South Park is hay, and the meadows were full of stacks. From Como to Fairplay the road passes most of the way by these fields.

Fairplay is on the South Platte River, the same stream up which I had started from Denver, but here I was close to its head; the town is not very near to the mountains. The first day I was there I walked over to Beaver Creek, a tributary of the Platte, running nearly parallel to it on the easterly side of a low ridge which separates the two streams. I followed this stream up a short



Fig. 36. MT. BROSS AND MT. LINCOLN, FROM SILVERHEELS. (BROSS IS THE ROUNDED MOUNTAIN IN CENTER, AND LINCOLN THE SHARPER PEAK NEXT ON THE RIGHT.) BEAVER CREEK AND BEAVER RIDGE IN FOREGROUND. SOUTH PLATTE RIVER IS BETWEEN BROSS AND LINCOLN AND BEAVER RIDGE. ALMA IS AT FOOT OF MT. BROSS, NEAR LEFT HAND SIDE OF PICTURE, OUT OF SIGHT BEHIND THE RIDGE

distance and then went to above timber-line on Mt. Silverheels, altogether some eight miles and back. My second day at Fairplay was spent closer to the town.

Alma is also situated by the South Platte River, here not a large stream, as it is but a few miles to its source, and Buckskin Creek flows through the town to the river. Mosquito Creek and Gulch are to the southwest over a low divide. The town is at the foot of Mount Bross, which is 14,100 feet high, with Mount Lincoln just beyond, and a couple of hundred feet higher. It is easy to reach high altitudes in the mountains here, which makes it an excellent place to study the life of such regions.

The life zones represented are the Canadian, Hudsonian, and Arctic-

Alpine. Only the upper portion of the first mentioned is represented. A very characteristic tree is the foxtail pine, *Pinus aristata*, which seems to be much more common at timber-line than the Engelmann spruce, though the latter grows on the mountain slopes. The pine is also common on the hills in the adjacent portion of the South Park away from the mountains proper. Lodgepole pines, *Pinus murrayana*, were also common, largely, I think, as second growth after the destruction of the first forest. Along the streams was the Colorado or blue spruce, *Picea pungens*, but not showing the blue color of the foliage as strongly as at lower altitudes. I doubt if it grew above 10,400 feet.

I had a distinguished predecessor in field work in this region in the person of Dr. J. A. Allen, who spent the week from July 19 to 26, 1871, at Montgomery, several miles above Alma, at the northeast base of Mt. Lincoln, practically at the source of the South Platte, with a party from the Museum of Comparative Zoology, Harvard College. Montgomery is now practically deserted, a very few people living there. Dr. Allen gives a list of 36 species found by him while there. Curiously enough the present list also includes 36 species, but no less than 16 of these were not noted by Allen at Montgomery, one, the House Sparrow, because it had not yet traveled that far west, in fact was hardly known in the East at that date. Another, the Pink-sided Junco, because it was not the right season, and others in my list are noted by him in his list of the birds observed in South Park, a few, indeed, at Fairplay. Some no doubt would be found at Montgomery, others probably do not reach there.

The following list shows what birds were present just about the time the last of the summer residents would be leaving. I think it hardly likely that any of the birds noted were migrants from any great distance, with the exception, of course, of *Junco hyemalis mearnsi*. I expected to find Pine Grosbeaks, Nuthatches, and Brown Creepers, but it so happened that none were seen. A few notes are included of birds observed from the train when passing through the South Park to and from Alma.

Oxyechus vociferus. Killdeer. A single individual flew past me September 27 as I was examining some beaver work in the South Platte above Alma.

Lagopus leucurus leucurus. White-tailed Ptarmigan. This species was reported common above timber-line in summer. I saw it but once, when I found a flock of six September 26 in a high basin on the north slope of Buckskin Ridge. They had begun the change from summer to winter plumage, one of them being a mottled brown and white, and the other five brown above and white below. I found them in rather an odd manner. I had killed a woodchuck several hundred yards up the hill, and skinned it on the spot. It was noon, and wishing to wash my hands before eating lunch I went down to a little stream which flowed there. I unloaded myself of camera, field glasses, etc., pulled off my coat, had a good wash, and was taking my lunch from my coat pocket when I happened to glance across the stream and saw two Ptarmigan about twenty-five feet away. When I tried to approach them with the camera I flushed four more between me and the first two. From the way the birds flew about when I followed them up after lunch I thought they were making the basin their home, for they merely flew back and forth from one side to the other. The elevation was about 12,000 feet.

Zenaidura macroura marginella. Western Mourning Dove. Seen on two occasions: September 23 I flushed one from a side-hill in Mosquito Gulch at

about 10,600 feet, and on the 29th one flew past me when I was near the South Platte about half a mile above Alma.

Circus hudsonius. Marsh Hawk. One seen from the train at Jefferson September 17, and again October 1; one was seen September 18 above timber-line on Mt. Silverheels; one seen near Fairplay and two or three near Alma.

Buteo borealis calurus. Western Red-tailed Hawk. This seemed to be a common hawk in the region, at least when I was there. Coming down into the Park on the train September 17, several were seen flying about over the hayfields, mostly immature birds; more were seen on the 18th when going up Beaver Creek from Fairplay. While at Alma I saw one or two in Mosquito Gulch at 10,600 feet or more, and they were also seen on one or two other occasions.

Aquila chrysaetos. Golden Eagle. One seen September 18, above timber-line on Mt. Silverheels.

Falco sparverius sparverius. Sparrow Hawk. Seen at Fairplay; in Buckskin Gulch, $2\frac{1}{2}$ miles above Alma, at nearly 11,000 feet; and one from the train at Como.

Sphyrapicus varius nuchalis. Red-naped Sapsucker. One seen September 18, on Beaver Creek, 3 miles from Fairplay, at above 10,000 feet.

Sphyrapicus thyroideus. Williamson Sapsucker. One collected September 22 in Buckskin Gulch, near Alma, at 10,500 feet. Another was seen near Alma on the 23rd, and I thought I saw one in Mosquito Gulch on the 24th.

Colaptes cafer collaris. Red-shafted Flicker. September 18 I saw five or six Flickers together in pine timber on Beaver Creek, about 3 miles from Fairplay, and single birds were seen later in the day, both farther up and lower down the creek. On the 22nd, in Buckskin Gulch about a mile up from Alma, I ran across quite a flock of the birds. They were feeding on the ground in an open park, and I flushed at least sixteen different birds, and think there were more. This was at about 10,400 feet. Seen also in Mosquito Gulch, where one was collected on the 25th. On the 26th two were seen on Buckskin Ridge at 11,000 feet, in mixed dead and green timber. These were the last I saw in the region. One was seen on the 17th at Como.

Pica pica hudsonia. Magpie. A common species everywhere from the time I got into the South Park on the train, but was not noted above 11,000 feet.

Cyanocitta stelleri diademata. Long-crested Jay. Did not appear to be common, and only a few were seen, near Fairplay and near Alma, all below 10,400 feet.

Perisoreus canadensis capitalis. Rocky Mountain Jay. Common in the mountains about Alma, and I saw some about every day while there, and also saw them September 18 in the timber on Silverheels, in fact noted them on that mountain in the very last stunted pines at timber-line.

Corvus corax sinuatus. Raven. One seen flying high above timber-line on Mt. Lincoln, September 18. Probably not uncommon.

Nucifraga columbiana. Clark Nutcracker. A few seen near Fairplay and Alma. Near the former place they were seen in a foxtail pine getting seeds from the cones.

Sturnella neglecta. Western Meadowlark. The Meadowlark was not seen at Fairplay or Alma, but was often seen from the train in the hayfields. It was

seen last about four miles from Fairplay. The altitude at which it was seen varied from 9,100 to 9,800 feet.

Euphagus cyanocephalus. Brewer Blackbird. Common everywhere and noted every day. They were always to be seen about Fairplay and Alma.

Leucosticte australis. Brown-capped Rosy Finch. Seen September 24, 26, and 28, in South Mosquito Gulch, on Buckskin Ridge, and on Mt. Lincoln, always at high elevations, timber-line or higher. At about 12,000 feet in South Mosquito I found a flock of 15 or 20. Several of them worked down a little lower and perched in some dead trees, in the topmost branches, something I do not recall having seen these birds do before, though when at lower elevations in winter I have seen them in low bushes or trees. One specimen secured.



Fig. 37. FOXTAIL PINES IN BUCKSKIN GULCH, THREE MILES ABOVE ALMA, AT ABOUT 11,500 FEET ALTITUDE

Spinus pinus. Pine Siskin. A few seen near Fairplay, September 20, and at least one in Mosquito Gulch, not far from Alma, September 25.

Passer domesticus. House Sparrow. A flock of 20 or 30 seen in Alma. I think they were also present at Fairplay.

Poocetes gramineus confinis. Western Vesper Sparrow. September 17, when on the train en route to Fairplay, a good many sparrows were seen in the hayfields from the car windows. One of these was positively identified as a Vesper Sparrow. It is quite possible that some of these birds may have been Savannah Sparrows, and very likely other species were present.

Zonotrichia leucophrys leucophrys. White-crowned Sparrow. Common in the willows along the streams near Alma and Fairplay, both adult and immature birds. One of the latter collected September 25 had a little patch of black

on one side of its head, with just a trifle of white at its edge. One bird was seen September 26, on Buckskin Ridge, at between 11,500 and 12,000 feet.

Spizella passerina arizonae. Western Chipping Sparrow. An immature bird collected near Fairplay September 19, and two adults seen in Mosquito Gulch September 25.

Junco hyemalis mearnsi. Pink-sided Junco. First identified September 27, when one was collected along the South Platte near Alma, and one or two others were seen. One was seen on Mt. Bross the next day at about 11,000 feet. I was of the opinion that they had arrived two or three days previously, as on September 25 I saw in Mosquito Gulch a large, restless flock of Juncos in thick brush. The few identified were all the next species, but I had not seen Juncos in such a large flock before that day.

Junco phaeonotus caniceps. Gray-headed Junco. Seen on Beaver Creek and on Mt. Silverheels. Observed almost daily in country about Alma. The greatest elevation at which the species was seen was about 11,500 feet on Silverheels.

Melospiza melodia montana. Mountain Song Sparrow. One seen in willows on Beaver Creek, at about 10,000 feet, September 18.

Dendroica auduboni auduboni. Audubon Warbler. Seen in Buckskin and Mosquito gulches, September 22, 23, and 25. A flock of 12 or 15 was seen on the 23rd, which appeared to be all females or immature birds.

Wilsonia pusilla pileolata. Pileolated Warbler. Seen in Buckskin and Mosquito gulches, September 22, 23, and 24, up to 10,500 feet. Only single birds seen. One seen on the first date was in company with Chickadees and at least one Ruby-crowned Kinglet. Allen's list includes these two warblers. Possibly they are the only species of warbler breeding in the region.

Cinclus mexicanus unicolor. Water Ouzel. I fully expected to find this species along all the streams in the region, but saw only one individual, on the South Platte above Alma, September 27.

Troglodytes aedon parkmani. Western House Wren. One was collected September 22 in Buckskin Gulch about a mile above Alma. It was about some low cinquefoil bushes in a meadow where I was setting traps, keeping close among the bushes and stirring about but little. I am quite positive I saw one farther up the gulch the day before.

Penthestes gambeli. Mountain Chickadee. I saw but a few Chickadees, first on Mt. Silverheels and along Beaver Creek, and later in Buckskin Gulch and on Mt. Bross.

Regulus calendula calendula. Ruby-crowned Kinglet. Seen on Beaver Creek and in Buckskin Gulch. Two were collected.

Myadestes townsendi. Townsend Solitaire. Seen on but one occasion, between Fairplay and Alma, September 20.

Planesticus migratorius propinquus. Western Robin. One or two Robins were seen on Beaver Creek, September 18, and noted on several different days near Alma; last on 29th, when several were seen.

Sialia currucoides. Mountain Bluebird. Seen at timber-line on Silverheels, September 18; at Fairplay on the 19th. Observed on several different days about Alma, and in Buckskin and Mosquito gulches, and on Mt. Bross, up to 11,500 feet. Also noted from the train at different points in the South Park.

Colorado Springs, Colorado, December 9, 1914.

FROM FIELD AND STUDY

Franklin Gull: A New Record for California.—Three specimens of the Franklin Gull (*Larus franklini*) have been taken by me at Hyperion, Los Angeles County, California, as follows: No. 1500 (coll. of J. E. Law), sex not ascertained, November 22, 1913; no. 2350, male, October 17, 1914; no. 2587, female, November 24, 1914. All three are in similar plumage, and are apparently immature, corresponding closely in appearance to a specimen (labelled "juv.") from Clay County, Texas, taken October 1, 1879 (coll. U. S. National Museum, no. 80007). The latter is in much fresher plumage than either of mine, and my October specimen, though somewhat worn, is again in notably fresher plumage than either of the two November birds.

In two of my specimens (nos. 1500 and 2350) the forehead is largely white, sparsely flecked with dusky; in the third (no. 2587) the whole top of head is dusky, with a little white on the forehead. In all three there is a quite solid dusky area covering cheeks and back of head. A small dusky crescent around front of eye is conspicuous in all. In the November birds the wing coverts are faded and worn, giving a rusty appearance. In number 1500 (taken November 22) the narrow white tips of the primaries are worn almost away, as is much of the edging of the scapulars. The white tips of the rectrices (in new feathers about 5 mm. broad) are also nearly gone.

All three of my birds have the broad black, or dark brown, subterminal band across the tail, covering all but the outer rectrices, the one marking which, in this species as in *L. philadelphia*, is apparently the most obvious means of distinguishing immatures from winter adults. All have the slaty mantle, different from the brownish wing-coverts, and all have the entire under-parts white, though with slaty flecks on sides of upper breast. One of my birds, and also the National Museum immature at hand, shows a slight pinkish tinge on throat and upper breast. In all three of my specimens bill, tarsi and feet are black, showing no trace of the reddish color ascribed to these parts in the several books I have consulted.

Mr. H. S. Swarth, after pronouncing my birds to be *Larus franklini*, procured for my use, through the courtesy of Dr. C. W. Richmond, the loan of two specimens of this species, for comparison, from the collection of the United States National Museum. One of these, a fall immature, is mentioned above. The other (coll. U. S. Nat. Mus. no. 4320) is an adult, beginning to molt into summer plumage. The privilege of examining these specimens was of inestimable value in ascertaining the status of my birds, as there apparently is no material of this sort in Pacific Coast collections, and I wish here to record my appreciation of the courtesy.

The three birds I have collected were taken from large flocks of Bonaparte Gulls (*Larus philadelphia*). They resemble the latter in size and general appearance, but can readily be distinguished in life by their dusky "collar" and dark-colored primaries.

The winter home of the Franklin Gull, as given by the A. O. U. *Check-List*, includes the west coast of South America; and in the British Museum *Catalogue of Birds* (vol. 25, 1896, p. 194) there are specimens listed from the west coast of Mexico. Apparently, however, the present record constitutes the first for the Pacific Coast of North America, certainly the first for California. The dates of capture indicate the probability of the species remaining here throughout the winter. Can it be that this bird is a regular visitor to our southern coast, though in limited numbers, and has it simply been overlooked heretofore?—J. E. LAW, *Hollywood, California*.

Scott Oriole at San Diego in the Fall.—On September 2, 1914, I saw a male Scott Oriole (*Icterus parisorum*) in eucalytus trees on the Panama-California Exposition grounds in San Diego. This is the latest date on which I have seen this species here.—FRANK STEPHENS, *San Diego, California*.

Early Nesting of the Texas Nighthawk.—Oberholser in his recent "Monograph of the Genus *Chordeiles*", p. 93, gives April 27 as the earliest recorded date in the United States for eggs of the Texas Nighthawk (*Chordeiles acutipennis texensis*). Joseph Grinnell in his "Birds of the Pacific Slope of Los Angeles County" (Pasadena Acad. Sci. Publ. no. 2, p. 27) reports the taking by himself of a set of fresh eggs of this species on April 21, 1897, near Pasadena; and this record is quoted by Willett (Pac. Coast Avifauna no. 7, p. 58). On the 17th of April, 1914, I took a set of these eggs in which incubation was slightly advanced, near the San Juan River, in San Luis Obispo County.—WILLIAM LEON DAWSON, *Santa Barbara, California*.

A Curious Set of Gambel Quail Eggs.—During the season of 1913 I collected several interesting sets of common birds, among them one of fifteen eggs of the Gambel Quail, taken May 24, in the mesquite forest near Tucson. The photograph (fig. 38) shows this set, which was unusual in the great variation in the sizes of the eggs; for it contains not only the smallest, but also the largest egg of *Lophortyx gambeli* that I have ever taken.

The largest and smallest are shown side by side in the center of the photograph, and the others are arranged in the order in which I give the sizes (in inches), as follows: .94x.74; 1.06x.84; 1.04x.85; 1.10x.89; 1.07x.88; 1.17x.91; 1.18x.90; 1.22x.93; 1.19x.95; 1.27x.96; 1.31x.95; 1.30x.98; 1.31x1.03; 1.36x1.00; 1.45x1.03. The average of forty normal specimens is 1.23x.93.—F. C. WILLARD, Tombstone, Arizona.

The Breeding of the Snowy Egret in California.—It is well-nigh incredible that the early "fathers", Gambel, Heermann, Cooper, and the rest, who regarded the Snowy Herons (*Egretta candidissima*) as "abundant" in California should have recorded no specific instance of their nesting within our borders. Cooper's naive remark that "In summer it migrates to the summit of the Sierra Nevada" shows, perhaps, how wide of the mark they were in their search. Without a shadow of doubt this species, save for a thirty-year period of persecution by plume hunters, has nested in certain flooded low-lands of

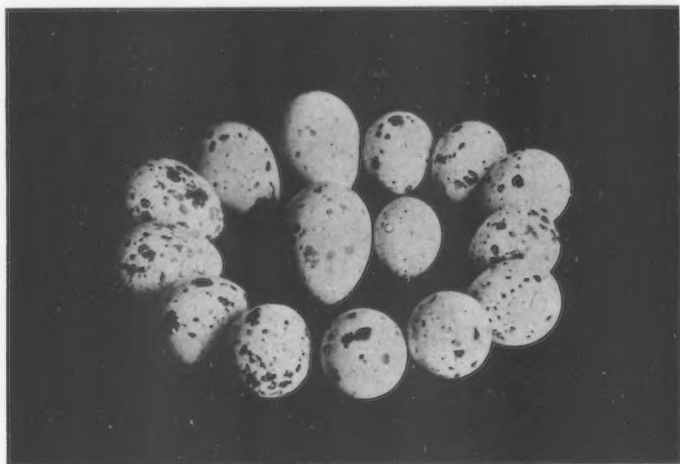


Fig. 38. A CURIOUS SET OF EGGS OF THE GAMBEL QUAIL

Photo by F. C. Willard.

our interior valleys from time immemorial; yet it remained, apparently, for a lucky accident of the past season to establish the first authentic breeding record for the State.

At a point in Merced County some miles from Dos Palos, my son and I, on the 26th of May, 1914, came upon five pairs of these birds nesting in close association with a colony of Black-crowned Night Herons, on a cat-tail island in the middle of a large overflow pond. The Squawks outnumbered the Snowies fifty to one, and it was impossible in the confusion attendant upon approach to tell just where the wary Herons got up. A thorough canvass of the reedy city, however, discovered five nests which contained a uniformly smaller type of eggs, four of five and one of four. One of these began to hatch on the day following, and the eggs yielded in turn chicks covered with a sparse long white down. The operation established also the fact that the Snowy Heron deposits its eggs every other day, and the complementary fact that incubation begins with the deposition of the first egg. Indeed it could not well be otherwise, for a single day's exposure to that blazing interior sun would addle an egg, however hardy.

The youngsters showed, as the days passed, an exaggerated disparity in size and strength, yet even when a week old appeared amazingly small and helpless. Neither did

they appear at all pugnacious, as do baby Squawks, but drew away timidly at the approach of the hand, and for the rest divided their time between panting lustily and scrambling about in search of shade.

The parent birds on all occasions were perfectly silent, and they maintained a discreet aloofness—sad commentary on the fiery furnace of affliction through which this gentle race has passed.—WILLIAM LEON DAWSON, *Santa Barbara, California*.

Additional Records of the California Clapper Rail and Red Phalarope in California.—On November 22, 1914, Mr. L. P. Bolander, Jr., secured at Tomales Bay, near Point Reyes Station, Marin County, California, the following two specimens which have been donated by him to the California Museum of Vertebrate Zoology.

Rallus obsoletus, California Clapper Rail (no. 24915, Mus. Vert. Zool.), immature male. This is the first record of the species on the ocean side of the Marin peninsula.

Phalaropus fulicarius, Red Phalarope (no. 24916, Mus. Vert. Zool.), immature female, in full winter plumage. The present record is the latest for the season for the northwestern coast of California. Beck (Proc. Calif. Acad. Sci., 4th ser., 1910, vol. 3, p. 70) states that there are fifteen specimens of this species in the collection of the California Academy taken near Monterey during December and January.

Early in January, 1915, Mr. F. J. Smith submitted two specimens of Clapper Rail taken on Humboldt Bay, to the Museum of Vertebrate Zoology for determination. The specimens are typical *Rallus obsoletus* (California Clapper Rail). One of these birds was taken by Mr. Fiebig and is at present in the library of the Eureka School. The other is the property of Dr. F. J. Ottmer. These specimens substantiate the Humboldt Bay record made by Cooper and Suckley (Natural History of Washington Territory, 1859, p. 246) and, together with the Tomales Bay specimen, extend the area of occurrence of the species beyond that given by Cooke (U. S. Dept. Agric., bull. 128, 1914, pp. 18, 19).—TRACY I. STORER, *California Museum of Vertebrate Zoology, Berkeley, California*.

Red Phalarope in the San Diegan District.—In view of the scarcity of records of the Red Phalarope (*Phalaropus fulicarius*) from inland points in southern California, it seems worth while to publish a statement relative to specimens recently collected by myself at Nigger Slough, Los Angeles County, California. A female in full breeding plumage was secured May 25, 1914. On November 8, 1914, a male and a female in winter plumage were taken from a flock of about fifty of the same species. The next day, covering the same ground, just three of the birds were observed, and I have seen none since.

A large flock of Avocets (*Recurvirostra americana*) was seen, and a pair secured, at the same place, November 15, 1914; and a pair of Marbled Godwits (*Limosa fedoa*) were also taken at this time.—I. D. NOKES, *Los Angeles, California*.

A Two Hours' Acquaintance With a Family of Water Ouzels.—On August 5, 1914, we were following down Rattlesnake Creek, near Cisco, Placer County, when our attention was drawn to the screaming of some nestling birds. Water Ouzels (*Cinclus mexicanus unicolor*) had been seen in the vicinity, and the locality seemed to be ideal as a nesting site for this species. A waterfall about fifteen feet in height tumbled over a rocky ledge at this point into a fine large pool of clear water which was surrounded, on all but one side, by perpendicular walls of rock. We were not surprised, therefore, to find, on investigation, a Water Ouzel's nest built in a cleft of the rock about two feet from the falling stream of water. The moss of which the nest was built had formerly been kept green by trickling water, but at this date had begun to turn brown. White excrement below the entrance to the nest led to its discovery.

On approaching the nest, one of the occupants, a well-fledged Water Ouzel, fluttered from the entrance and dropped down into the pool of water below. Here it immediately dove and swam for a distance of six feet or more and at a depth of about two feet below the surface of the water. Quick, short strokes of the wings enabled the bird to swim rapidly in this medium.

A moment later a second bird flew from the nest. This one, unlike the first, did not dive, but swam about on top of the water, using its wings in the same manner, however. Still another young bird remained in the nest, but repeated attempts to dislodge it failed.

An adult with food in its mouth soon appeared, jumping from rock to rock and "bobbing" continuously. Its call was answered by the birds in the water and the one in

the nest. The food brought appeared to consist of a worm of some sort. After feeding one of the birds, which by this time had taken refuge on a small ledge near the water's edge, the adult flew off down the creek evidently in search of more food. A few moments later it again appeared with food in its mouth and fed the same nestling. The method of feeding was typical of most passerine birds, the young bird fluttering its wings and calling as the food was placed in its mouth. The recipient of all of the parent's attention, after prolonged attempts, succeeded in climbing higher out of the water onto a ledge of rock where the sun soon dried its plumage. It was surprising to see how quickly this little bird gained strength. It would huddle up, sitting perfectly still for a few minutes. Then, appearing rested, it would attempt to climb the almost perpendicular wall. The call of the parent was always a signal for a succession of "bobs", exactly similar to those so characteristic of the adults. Within an hour after leaving the nest this little Ouzel was walking around on a small ledge of rock searching in the crevices and pecking at the lichens and moss growing there.

Six times the adult bird appeared with food, and each time fed but one of the young birds in spite of the persistent calls of the other fledgeling which had taken refuge beneath a rock farther down stream. Finally the calls of the bird still in the nest attracted the parent's attention and it was rewarded with a mouthful.

An excellent opportunity was afforded to see the parent bird dive to the bottom of the large pool for food. With a motion too quick for any observance of detail, the bird started head-first for the bottom. The water was clear enough to show that a perpendicular path was taken; on rising to the surface the bird was not more than two feet away from the place where it first dove. The time actually spent under water, observed by means of a watch, proved to be ten seconds. The water was about ten feet deep. Preference seemed to be shown for the swirling water just beneath the fall. On arriving at the surface the oily feathers seemed to shed the water like magic. In swimming, the bird paddled with its feet, using them alternately. The body seemed very buoyant and the unwebbed feet appeared to furnish plenty of power.

Our interest in seeing the fledgeling birds dive and swim led us to again attempt to frighten the remaining bird from the nest. A long stick and a number of pokes at last drove it to take to water. Instead of diving and swimming, this one fluttered along the surface of the water to the rocky wall on the north side of the canyon and then started to climb up the rock. Within ten minutes it had climbed to a height of twelve feet. By approaching slowly, crawling close along the rocky wall, we almost succeeded in catching it. At one time one of us was within arm's length of it.

The above account is interesting as showing the actions and instincts of young birds the first few hours after leaving the nest. The fact that the observations relate to so unique a bird as the Water Ouzel lends added interest.—HAROLD C. BRYANT and AMY M. BRYANT, Berkeley, California.

Notes from the Sea-coast of Southern California.—On July 15, 1914, while hunting along the beach at Corona del Mar (opposite Balboa beach) I noticed a Barn Swallow (*Hirundo erythrogastra*) flying through the air with a feather in its mouth. The swallow entered a small cave which at low tide is partially filled with water. On entering I found, on a small projection, a nest containing two fresh eggs. The parent bird was apparently still building the nest. This appears to be a late nesting record for this bird.

July 6 this year (1914) I collected a Long-billed Dowitcher (*Macrorhamphus griseus scolopaceus*) on a sand-spit in Balboa bay. As Mr. Willett does not record these birds as occurring in the summer time I consider this an early fall migrant.

While collecting at Laguna Beach the same summer I found a small grassy glade at the top of the hills surrounding the town of Laguna, where the Western Yellow-winged Sparrow (*Ammodramus savannarum bimaculatus*) was extremely common. With the exception of two birds I saw at Laguna lakes, one of which I collected, I did not find these birds at any other place. Young birds predominated in number, over two-thirds of the specimens I collected being young of the year. In speaking of this Mr. Swarth says: "The Western Yellow-winged Sparrow is a good take. The species has been recently ascertained to breed in this region, but it is not at all common, and there are not many records. The capture of a young bird at the date on which you took your specimen [June 27, 1914] is pretty good evidence of breeding, and I think the fact is worth recording."—LEON LLOYD GARDNER, Claremont, California.

Peculiar Nesting Site of Anthony Towhee.—On April 25, 1914, a friend called my attention to a nest placed in the topmost box of a stack of berry boxes that were standing on a bench in his barn. At the time, the nest contained two partly incubated eggs of the Anthony Towhee (*Pipilo crissalis senicula*). The bird usually entered the barn through a door near the nest, but when this was closed it entered through a window fully ten feet from the nest. For some reason the nest was deserted after the eggs were about half incubated. This is the first instance where I have found this bird nesting otherwise than in a tree or bush.—WRIGHT M. PIERCE, Claremont, California.

The House Finch as a Parasite.—Close observation of some of our commonest birds often leads to the discovery of some trait not hitherto ascribed to the species. The practice of making use of the nests of others in which to deposit their eggs is common to many of our North American birds. Among the cowbirds and cuckoos this practice



Fig. 39. NEST AND EGGS OF ANTHONY BROWN TOW-
HEE IN STACK OF BERRY-BOXES

Photo by W. M. Pierce.

is so well known as to need no comment. Certain of the gallinaceous fowls, such as pheasants, partridges, quail, etc., occasionally deposit their eggs in nests of others of their own or allied species.

The waterfowl are represented in this class, many species leaving their eggs to the care of other birds. Thus eggs of the Ruddy Duck, the Redhead, the Shoveller, and others, are frequently found in the nests of other ducks, and coots. Many of the Raptors make use of the deserted nests of crows, ravens, magpies, and others suited to their needs. The sparrow hawks, smaller owls, and numerous species of wrens, chickadees, titmice, etc., use old woodpecker holes.

But as far as I know, the Linnet, or House Finch (*Carpodacus mexicanus frontalis*) is unique among the Fringillidae as a parasite. I first encountered the species under consideration as leaving its eggs to the care of a foster-parent in April, 1908. A nest of

the Black Phoebe (*Sayornis nigricans*) was found under a bridge near San Pedro, California, containing five eggs of the Black Phoebe and one egg of the House Finch. All were heavily incubated, the egg of the House Finch not quite so much as the others. As the female Phoebe was brooding when the nest was found, it was apparent that she had no objection to the intruder, or else was not aware of its presence.

The same year I had occasion to examine a nesting colony of Cliff Swallows (*Petrochelidon lunifrons*) near Los Angeles. Two nests examined had been appropriated by House Finches before the builders had laid. The Finches added a few straws and feathers, and were in sole possession when found. A third nest in this same colony held three eggs of the Cliff Swallow and two of the House Finch. The Swallows were as com-pleasant to the added burden thrust upon them as were the Phoebes, and were incubating contentedly. Had the young Finches hatched, I wonder if they would have survived the "bed-bugs" with which the nest was infested, such conditions not being natural to the species.

A pair of Arizona Hooded Orioles (*Icterus cucullatus nelsoni*) started a nest of palm-leaf fibers in a eucalyptus tree across the street from my home in the city the same year. Before it was quite completed the builders were ousted by the ever-present House Finches, which made a few changes and reared their young in the cosy basket. The Orioles selected another site in the same tree, and raised a brood without further molestation. The following year a pair of Orioles, probably the same pair of the previous year, appeared in the neighborhood, and soon built a nest near the old one. Wishing to ascertain the contents, I got within sight after a strenuous climb, and beheld two eggs of the owners and one of the House Finch. The Orioles seemed to have submitted to the inevitable; and here, I thought, was a good opportunity to see what would happen to the mixed brood when hatched. But I was doomed to disappointment, for the tree was trimmed before further investigation could be made, and a like chance has not yet presented itself.—D. I. SHEPARDSON, *Los Angeles, California*.

Pink-footed Shearwater on the Coast of Washington.—An extensive movement of Shearwaters observed at Point Grenville on the coast of Washington August 27, 1910, yielded the customary toll of weaklings cast ashore. Among many stranded specimens of *Puffinus griseus* and some of *P. tenuirostris* I noted carefully (but, unfortunately, had no facilities for preserving) a Shearwater which appears to be *Puffinus creatopus*. My notes say, "Underparts white, changing to sooty on sides of throat, edges of wings and (conspicuously) under tail-coverts"; and make mention of bill notably stouter than that of *P. griseus*. Also "feet very pale, might have been pink in life." I was not at that time acquainted with *P. opisthomelas*, which proves to be a smaller, slender-billed form, —and so buried my notes under a misleading caption.—WILLIAM LEON DAWSON, *Santa Barbara, California*.

Another Record of the White-throated Sparrow for California.—With the finding of the White-throated Sparrow (*Zonotrichia albicollis*) on January 28, 1915, by the bridge near the new Agricultural building, a new name has been added to the list of birds of the Berkeley campus. The bird was feeding in a patch of chickweed in company with a number of Nuttall White-crowned and Golden-crowned Sparrows, at a distance of about ten feet from where I was standing. I was first attracted by its brighter brown back and its crown stripes which were noticeably different from those of the White- and Golden-crowns. It then turned and I discovered the distinct white throat patch which settled its identification as the White-throated Sparrow. On three subsequent occasions, January 29, February 9 and 15, I have watched a White-throated Sparrow, presumably the same bird, in the same spot. On February 9 I discovered the bird just after it had taken a bath and for a few minutes was in doubt as to its identity because of the ruffled condition of its feathers; but I watched it until it was dry again and the white throat patch was unmistakable. On the other two dates the White-throated Sparrow was feeding in the company of both Nuttall White-crowned and Golden-crowned Sparrows,—MARGARET W. WYTHE, *Museum of Vertebrate Zoology, Berkeley, California*.

European Widgeon in Washington.—I have the pleasure of recording the capture of a young male European Widgeon (*Mareca penelope*), which I think is the first ever recorded from the state of Washington. It is a male in fine plumage, and was taken by Mr. L. W. Brehm, of Tacoma; the locality was the Nisqually Flats, Thurston County, Washington. Mr. Brehm informs me that there was a flight of several thousand Baldpates (*Mareca americana*), but that he saw no other birds resembling *penelope*. Date of capture January 12, 1915. Identification verified by Dr. A. K. Fisher.—J. H. BOWLES, Tacoma, Washington.

The California Shrike in Montana:—A Correction.—A shrike secured at Anaconda, Montana, May 14, 1911, has recently been examined by Mr. H. C. Oberholser and identified as the California Shrike, *Lanius ludovicianus gambeli*. This bird was originally reported as the Migrant Shrike, *L. l. migrans* (CONDOR, XIV, p. 30). It is possible that this bird is only a variant of the White-rumped Shrike, *L. l. excubitorides*, the common breeding form in Montana. I doubt, however, if this is the case, for the bird was taken in a region where the White-rumped Shrike is not known to breed, west of the continental divide, and at an elevation about 1000 feet higher than that of the regular breeding range of the White-rump. There are no records, to my knowledge, of the occurrence of the White-rumped Shrike west of the continental divide in Montana, so that I believe this is a true case of the California bird having wandered east of its regular range during migrations.—ARETAS A. SAUNDERS, West Haven, Connecticut.

A Winter Record for the MacGillivray Warbler.—On December 17, 1914, a bird of this species (*Oporornis tolmiei*) was located by its note in a dense hedge of cypress close by the old ranch house at the La Brea Fossil Beds. Nearly all the morning it called frequently from almost the same spot, where it kept closely to the densest place, whence it ventured occasionally a few feet into a bed of horehound adjoining. It refused to leave cover even when a grocer's wagon drove within eight feet. When finally secured it proved to be minus all rectrices, a fact that may account for the specimen furnishing what appears to be the only winter record for California.—L. E. WYMAN, Museum History, Science, and Art, Los Angeles, California.

California Condor in Los Angeles County.—A California Condor (*Gymnogyps californianus*) was observed February 16, 1915, and reported to me, by a gentleman from Covina. The bird was in flight low overhead in the San Jose Hills, near Covina. (This is the little bunch of hills lying between Covina, Puente, Pomona and Lordsburg.) Condors used to be very common in this range of hills, but are so seldom seen now that I thought the instance worth recording.—W. LEE CHAMBERS, Eagle Rock, California.

New Winter Records for Arizona.—According to Swarth (Pac. Coast Avif. no. 10, pp. 14, 38), the two following are winter records for Arizona:

Erismatura jamaicensis. Ruddy Duck. This species was present in small numbers on Roosevelt Lake, Arizona, during my stay in that section, November 30, 1914, to February 3, 1915.

Calypte anna. Anna Hummingbird. In many localities along the shore of Roosevelt Lake there are rather extensive groves of "wild tobacco". Here Anna Hummingbirds were plentiful during my entire stay. There may have been other species of hummingbirds present at the time, but *C. anna* was the only one positively identified. An adult male was shot December 1st.—GEORGE WILLETT, Los Angeles, California.

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EDITORIAL NOTES AND NEWS

The San Francisco Meeting of the A. O. U. On the 17th to the 20th of the coming May the Thirty-third Stated Meeting of the American Ornithologists' Union will convene in San Francisco. Many will remember the very successful Pacific coast meeting of the A. O. U. held in June, 1903. That was not, however, a regular stated meeting; in fact, the 1915 congress will be, to the best of our knowledge, the first formal meeting of the A. O. U. ever held west of Washington, D. C.

The business session for Fellows will be held Monday evening, May 17. All other sessions are open to the ornithological public. It is urged that members of the Cooper Ornithological Club attend each day's sessions during the entire convention; papers are invited from C. O. C. members, even from those who do not happen to be members of the A. O. U. All papers will be announced on the general program of the Union, to be distributed at the meeting. In other words, the occasion will be one of general ornithological activity, both within and without the Union's own membership.

It is further planned to have a joint A. O. U.-C. O. C. dinner and "smoker" on Tuesday evening, May 18, for the purpose of

providing an opportunity for personally meeting one another. This will be the one evening affair during the convention, as it is believed that the majority will prefer to use their evenings in "doing" the Exposition. Otherwise the sessions of the A. O. U. will be called each day at 9:30 A. M. and 2:30 P. M. After the A. O. U. congress has adjourned a session of the C. O. C. will be called. This will be a joint meeting of both Divisions, this being the first of its kind since 1903. At the conclusion of the convention, excursions will be undertaken under competent leadership to the Farallon Islands, to Mt. Tamalpais, and to Los Baños.

The A. O. U. committee of arrangements, Mr. Joseph Mailliard, chairman, has selected the Inside Inn, located on the Exposition Grounds, for A. O. U. headquarters. This will be available as a meeting place for those staying outside as well as inside the Grounds, and will enable all to take advantage of the time between sessions for seeing the main features of the Exposition. The Inside Inn has ample accommodations for guests and for the convention sessions. Those not wishing to live in the Exposition Grounds will find the down-town district of San Francisco abundantly supplied with thoroughly modern and moderate-priced hotels. A letter of enquiry addressed to Mr. Joseph Mailliard, 1815 Vallejo St., San Francisco, will elicit any specific information desired.

This congress promises to be no solemn affair; in fact, we are already aware of certain non-serious features in the outline of procedure which is now in the hands of our congenial San Francisco representative. The President of the A. O. U., Dr. A. K. Fisher, of Washington, is widely known as a gentleman of most cheerful qualities—one who is naturally gifted to preside felicitously. Then there is Dr. Witmer Stone, who will temporarily desert the office of *The Auk* for a visit to the Pacific coast, and whose joviality and social qualifications have made Philadelphia famous as headquarters for successful A. O. U. meetings. But we cannot here attempt a catalog of all the Easterners who we know are planning to attend. Come and meet them.

The chairman of the program committee, Professor W. K. Fisher, reports that already several popular illustrated numbers have been promised by C. O. C. members. While movie and lantern facilities are to be provided, it is not meant that the stock of the non-illustrated paper is to be listed below par. On the contrary, it is earnestly desired that a large proportion of the papers will be serious contributions to ornithology, each giving in concise form the results of special observation and study. Members of both the C. O. C. and A. O. U. are requested to send titles, and estimated time of reading, to Professor Fisher.

We learn through Dr. C. W. Richmond that Mr. Ridgway is nearly finished with the Parrots, which, with the Cuckoos and Pigeons, will comprise Part VII of his *Birds of North and Middle America*. The Cuckoos are already in page proof, so that the next volume is well under way.

A special meeting of the Southern Division was called at the Museum of History, Science and Art, Los Angeles, Friday evening, January 22, 1915. Fifty-two members and visitors were in attendance. No business was transacted, the purpose of the meeting being to hear a talk by a fellow Club member, Mr. Joseph Dixon, dealing with his experiences on a recent trip in the far north. Mr. Dixon was a member of a party engaged in gathering natural history specimens on the coast of Alaska. They visited certain of the Aleutian Islands, crossed over to the Siberian shore for a short sojourn, and then east once more to the vicinity of Point Barrow. Here they were caught in the ice and forced to remain until the following summer, the whole trip covering a period of about a year and a half. Mr. Dixon exhibited an interesting series of lantern slides, from photographs taken by himself, illustrating the varying fortunes of the expedition, the character of the regions visited, and certain of the birds and mammals encountered. This lecture constituted one of the most entertaining programs that has been presented to the Southern Division in recent years.

Two new numbers of the Cooper Club's *Avifauna* series are promised for publication in the not distant future. Both are in advanced stage of preparation as far as the authors are concerned. Number 11 will be "A Distributional List of the Birds of California", by J. Grinnell, and will aim to be an up-to-date summary of the nature of occurrence of the 539 species and subspecies of birds now authentically credited to the State. *Avifauna* number 12, by A. B. Howell, will treat of the "Birds of the Southern California Coast Islands". This paper will comprise practically everything that is known concerning its subject, not only distributional status island by island, but extended life-history narrative. The author's personal knowledge of the avifauna of the islands will be reflected in a goodly proportion of original matter.

The Business Managers' report for 1914 recently rendered makes interesting reading for those who like to watch the vigorous growth of the Cooper Ornithological Club. The membership of the Club at the close of 1914 numbered 503, which is 64 more than in any previous year. *THE CONDOR* for 1914 contained 278 pages, being 26 pages more than for any preceding volume. Pacific Coast *Avifauna* number 10 was published during the year at a cost of \$376.11. The edition of this, as also of *THE CONDOR*, was

1000. The full report, as compiled by W. Lee Chambers, goes into great detail; an abbreviated version is as follows:

Dues received during 1914.....	\$1011.67
Subscriptions during 1914.....	227.70
Advertisements	32.00
Sale of Avifaunas	71.88
Sale of back Condors	101.68
Donations	65.00
Refunds	5.61
Total receipts	\$1515.54
In bank January 2, 1914.....	648.36
Total cash assets	\$2163.90
Printing of Condor	\$ 975.18
Engraver's bills	219.28
Expended on Avifauna account.....	437.29
Editorial expenses	22.72
Business Managers' expenses.....	162.47
Southern Division expenses.....	27.85
Northern Division expenses.....	40.70
Sundry expenses	56.55
Total expenditures	\$1942.04
In bank January 2, 1915.....	221.86
	\$2163.90

COMMUNICATION

A NATIONAL BIRD CENSUS

Editor, *THE CONDOR*:

A preliminary census of the birds of the United States was undertaken by the Bureau of Biological Survey during the spring of 1914. The results were so encouraging that the work is to be repeated during the spring of 1915 on a larger scale, and will probably be repeated yearly thereafter in order to obtain permanent records showing the fluctuations in the bird population of the United States. Observers are particularly desired in the West and South and it is hoped that the readers of *THE CONDOR* will be able to render valuable assistance in the campaign for the coming season. Anyone familiar with the birds nesting in his neighborhood can help, more particularly as only about the equivalent of one day's work is needed.

The general plan is to select an area containing not less than 40 nor more than 80 acres that fairly represents the average conditions of the district with reference to the proportions of plowed land, meadowland, and woods, and go over this selected area early in the morning during the height of the nesting season and count the singing males, each male being considered to represent a nesting pair. In the latitude of Washington, D. C., the best time is the last week in May; in the South the counting should be done earlier; while in New England and the northern part of the Mississippi Valley about June 10 is the proper time. The morning count should be supplemented by visits on other days to make sure that all the birds previously noted are actually nesting within the prescribed area and that no species has been overlooked.

Readers of *THE CONDOR* and others who are willing to volunteer for this work are

requested to send their names and addresses to the Biological Survey, Washington, D. C. Full directions for making the census and blank forms for the report will be forwarded in time to permit well considered plans to be formulated before the time for actual field work. As the Bureau has no funds available for the purpose, it must depend on the services of voluntary observers.

Very truly yours,

E. W. NELSON,

Assistant Chief, Biological Survey.

Washington, D. C., February 16, 1915.

PUBLICATIONS REVIEWED

HANDBOOK OF BIRDS | OF THE | WESTERN UNITED STATES | including the Great Plains, Great Basin, Pacific Slope, and | Lower Rio Grande Valley | by | FLORENCE MERRIAM BAILEY | with thirty-three full-page plates by | Louis Agassiz Fuertes, and over six | hundred cuts in the text | Fourth edition, revised | [design] | Boston and New York | Houghton, Mifflin Company | The Riverside Press Cambridge | 1914. Pp. ii+570, pls. I-XXXVI, 2 diagrams and 601 figs. in text. (Our copy received December 12, 1914.)

The appearance of the fourth edition, revised, of Mrs. Bailey's *Handbook* is a sufficient attest to its popularity and usefulness. To the average student of birds in the western United States this is the only satisfactory handbook available, and teachers in schools and colleges give it wide use in the classroom and laboratory.

Revision in the present edition consists in the elimination of all the local lists (pages xlii-lxxxii of the original edition, 40 in all) of the original text, the succeeding parts of the introduction being brought forward and repaged to fill the gap, and in the addition of fifty-nine pages (485-544) of new material. This new matter covers the following subjects: "Changes in nomenclature made by the nomenclature committee of the American Ornithologists' Union, 1902-1913" (2 pages), "Species to be added" (3½ pages, with a brief description of each added form), "Species to be eliminated" (½ page), "Birds of the western United States in the nomenclature of the 1910 check-list" (45½ pages, giving the A. O. U. number, the scientific and vernacular names and the range condensed by the extensive use of abbreviations), and "Books of reference" (62/3 pages, supplemental to the original list printed on pp. xlii-xlix of the amended introduction). Thus from the standpoint of nomenclature and distribution the revised edition reflects much more of our present knowledge, while the technical descriptions and the miscellaneous notes by Mr. and Mrs. Bailey and others remain unchanged.

In view of the extensive popular use of the book it is to be regretted that the publishers could not concede to Mrs. Bailey a

complete revision of the book, such as she desired. Certain shortcomings, which could not be foreseen when the work was first published, make parts of the original text difficult for the average student to use. However, a thorough revision is to be expected within the next few years, and until then the present edition, as with previous ones, will very effectively fill the need for authoritative information concerning bird life in western North America.—TRACY I. STORER.

ALASKAN BIRD-LIFE | as | Depicted by Many Writers | Edited by | ERNEST INGER-SOLL | — | Seven Plates in Colors and Other Illustrations. | — | Published by the | National Association of Audubon Societies | New York, 1914 [our copy received November 27, 1914]; 72 pp., 7 col. pls., 5 hfft., 1 map. (To be purchased for \$1.00 at the Office of the Audubon Societies, New York City.)

A splendid idea has here been put into execution—that of making available throughout the schools of a given district a popular account of its birds. No less than 8000 copies of this little book are to be distributed to the school children of Alaska. This benefaction, as we are told in February, 1915, number of *Bird-Lore*, is made possible through private gift for the purpose.

The text consists chiefly of quotations and direct contributions from several leading students of Alaskan bird-life, and insofar as these contributed accounts are rendered verbatim, no criticism can be offered. By far the more important of these contributions come from the pen of our foremost Alaskan authority, E. W. Nelson. His new writings here published are no less virile than those of his Alaskan "Report" of thirty years ago. The colored plates, chiefly by Brooks, are further features of great merit. Let it be understood that, even with the unfavorable comments to follow, the object and, in the main, the execution of this booklet deserve the warmest commendation. It is all the more a pity that a high standard could not have been secured on all of its pages.

Although we are told in the Introduction that "the greatest care has been taken as to accuracy", no less than thirty more or less serious mistakes offend the eye of the reader on the first twenty-five pages. It is only fair to the various contributors to state that these twenty-five pages of matter are chiefly the compilation of the editor of "Alaskan Bird-Life", who thus shows scientific unfitness for the service rendered.

As illustrative of the kinds of errors in evidence, we may point out the following (italics ours): "Among those [of the auk family] breeding in crowded colonies south of the Aleutian islands are the ... crested auklets, marbled, ancient, and Kittlitz's murrelets, ... and the black guillemots"—

erroneous in at least four respects. "The pigeon ... auklets appear [in southeastern Alaska] only as *migrants in winter*"—what does it mean! "White-breasted" cormorants and "Gambel's *whitethroat*"—what are they? "The *only game-bird* of the [south-coast district of Alaska] ... is the *white-tailed ptarmigan* ...". "Of the owls, the short-eared finds excellent nesting-places in the *thick woods* ...". "...Both varieties of the Canada or spruce grouse, or fool-hen, resort *in summer* to breeding-places *all over* the interior ..."—than which a more foolish statement could hardly be constructed! The above-quoted, and other statements, are inconsistent with many of the best-known facts in Alaskan ornithology.

It does seem to us that when an organization of the standing and financial resources of the National Association of Audubon Societies essays to engage in instructing the youth of the land with "accuracy", better results than parts of those here presented might have been secured. It is a reflection upon the standing of ornithology and ornithologists in America when presumably representative work is put out in this faulty manner—and for the worthy purpose of popular education.—J. GRINNELL.

WILD LIFE CONSERVATION. By WILLIAM T. HORNADAY (Yale University Press, New Haven, November, 1914, pp. vi+240, 13 pls.).

That noted champion of wild life conservation, W. T. Hornaday, has just contributed another valuable work to the cause. The book is the result of a series of lectures dealing with wild life conservation as given before the Yale Forestry School. The author says: "The publication of this volume by the University Press may well be accepted as a contribution to a cause. It is hoped by those who have made possible this lecture course and this volume that this presentation may arouse other educators in our great institutions of learning to take up their shares of the common burden of conserving our wild life from the destructive forces that so long have been bearing very heavily upon it."

In his introduction Dr. Hornaday scores University educators for training a grand army of embryologists and morphologists and allowing the annihilation of the species that our zoologists are studying. He asks: "Which is the more important: the saving of the pinnated grouse from extermination, or studying the embryology of a clutch of grouse eggs?"

The book is divided into five chapters, as follows: "The Extinction and Preservation of Wild Life," "The Economic Value of Our Birds," "The Legitimate Use of Game Birds and Mammals," "Animal Pests and their Rational Treatment," and "The Duty and Power of the Citizen in Wild Life Protection." In addition a chapter on "Private

Game Preserves as Factors in Conservation" by Frederick C. Walcott is given, and the book concludes with a bibliography of the more recent works on wild birds with special reference to game preserves and the protection and propagation of game. A number of very telling pictures depicting the slaughter of game and also a number illustrating protection are used as illustrations.

The most pertinent sentences and paragraphs are placed in italics. Most of these expressions are in Dr. Hornaday's positive style. They are expressed in such a way as to make them appear immutable laws. For example, here are some of them: "No one thanks an ancestor who hands over to him only desolation, ugliness and poverty"; "a fauna once destroyed cannot be brought back"; "every wild species of bird or mammal quickly recognizes protection, and takes advantage of it to the utmost"; "if our quail and grouse are decently treated, and sensibly protected, they will come back so rapidly and so thoroughly that we will not need to look abroad for substitutes." We are glad to see a growing sentiment in favor of this last maxim. Our own native game will always be of more value than introduced game.

The time is near at hand when every sportsman will echo the sentiment expressed in the following: "The outing in the open is the thing,—not the amount of bloodstained feathers and death in the game bag." This slogan should be conspicuously posted in every gun club lodge in the United States.

The chapter on "The Duty and Power of the Citizen" furnishes information as to "what the young conservationist can do when the mantle of leadership has fallen upon him." The following advice is given: "Do not propose any local legislation"; "a leader must be willing to sacrifice his personal convenience, the most of his pleasures, and keep at his work when his friends are asleep or at the theater"; "campaigns for wild life conservation should attack educated classes", for "the greatest factor in reforming the wild life situation is education, for it is the educated people who educate their legislators into the making of better laws and providing means for their enforcement."

Mr. Walcott's chapter on "Private Game Preserves" deals largely with successful methods of propagating game and the success attendant upon careful protection. He also suggests the aviary as an important adjunct to the education of the public.

"Our Vanishing Wild Life", and this

newer work, "Wild Life Conservation", are unique books, and they have to be placed in a class by themselves. The fact that they are a contribution to a cause, from a man who is devoting his life to that cause, adds interest and force to them. The commendatory criticism of another great champion of wild life, Theodore Roosevelt, is to be found in the *Outlook* for January 20, 1915.

—H. C. BRYANT.

DISTRIBUTION AND MIGRATION OF NORTH AMERICAN RAILS AND THEIR ALLIES. By WELLS W. COOKE. Contribution from the Bureau of Biological Survey. [Bull. U. S. Dept. Agric. no. 128, pp. 1-50, 19 figs. (maps) in text. Issued September 25, 1914.]

This paper is a continuation of Professor Cooke's valuable work on the distribution and migration of North American birds. Previous publications of the Survey along this line have dealt with the warblers, ducks, geese and swans, shore birds, herons and their allies, and the egrets. Many papers concerned with the distribution of North American sparrows have been published in *Bird-Lore*.

A total of forty-four forms are considered in the present contribution, which deals with the rails. Of these twenty-one are confined to the West Indies or Middle America, and two species are casual in Greenland, leaving twenty-one forms (18 species and 3 subspecies) which range into or through the United States. The ranges of the extralimital forms and those of casual occurrence are briefly considered, while the ones occurring in the United States are treated more or less at length, according to the amount of information which is available concerning them.

The general, breeding, and winter ranges, spring and fall migrations, and dates upon which eggs or young have been taken or observed, are considered in turn. Maps showing the localities from which birds have been recorded are provided for each of the species occurring in the United States, and for the Spotted Crake of Europe. These show the breeding records, occurrences in summer, in winter, and wintering or resident records. Tables of the spring and fall migrations, showing the numbers of years for which the records have been kept, and the average and extreme dates of first and last appearance, are provided for the better known species. For reasons unknown to the reviewer the Humboldt Bay record of the California Clapper Rail (Cooper and Suckley, 1859, p. 246) is omitted.

Altogether the paper is a valuable contribution to distributional ornithology and an important reference manual. It is to be hoped that other groups may soon be treated in a similar manner and that the publications already issued, when republished, may be provided with distributional maps as in the present paper.—TRACY I. STORER.

SOME RECENT PUBLICATIONS OF THE BUREAU OF BIOLOGICAL SURVEY.—Mr. McAtee's paper¹ on "How to Attract Birds in Northeastern United States" is the first of a series of publications which the Biological Survey plans to issue on similar topics. When the series is completed the whole of our country will have been covered and the special methods to be adopted in each region thoroughly discussed.

The fencing of bird havens and methods of supplying breeding places are first described. Two types of bathing and drinking vessels are figured and the necessity for a water supply pointed out; then the matter of food supply is taken up. Under "Artificial Food Supply" the materials suitable for artificial feeding in order to attract the several kinds of birds in the region are named, and some of the devices for offering the food are shown in the accompanying illustrations. The "Natural Food Supply" is next considered, first as regards seed-eating birds, and then as regards the fruit-eating species. The paper concludes with a table showing the seasons of fruits, both native and introduced, which are available in the region and attractive to the birds found there, and a second table of the fruits which are useful to protect the commercial species by serving as counter attractions. The publication of future bulletins in this series will be awaited with interest.

In "Game Laws for 1914" Dr. Palmer and his assistants have presented their fifteenth annual report on the progress of game legislation in the United States and Canada. The bulletin presents a brief but comprehensive review of the measures enacted during the year, arranging them by subjects under the several states and in a uniform style to facilitate comparison. The legislation of 1914 was smaller in amount than for any year since 1906. In general it was

¹McAtee, W. L. How to Attract Birds in Northeastern United States. U. S. Dept. Agric., Farmers' Bull. 621, 15 pp., 11 text figs., 1 map. Issued December 14, 1914.

²Palmer, T. S., Bancroft, W. F., and Earnshaw, F. L. Game Laws for 1914. U. S. Dept. Agric., Farmers' Bull. 628, 52 pp. Issued October 20, 1914.

notable in extending increased protection to game animals in various ways. The instigation of the enforcement of the Federal Migratory Bird Law resulted in several states changing their laws to accord with that measure, and other states attempted to make their local laws more uniform.

Of particular interest to ornithologists are the Regulations for the Protection of Migratory Birds, which, as amended, are here presented in full. Tables giving the open seasons for various species of game in the States and Provinces are given, and data are also presented concerning the shipment of game, its sale, bag limits, and licenses for hunting and shipping game.

Bird houses are not so extensively used in the West as is the case in the eastern United States, but Dr. Dearborn's bulletin on "Bird Houses and How to Build Them"³ will doubtless stimulate interest along this important line of bird attraction. The author first comments on the increase in the number of bird houses in use and then proceeds to give practical directions accompanied by complete and detailed illustrations, with measurements, of many types of bird houses. All, from the simple tin can wired in a tree to the elaborate many-roomed "hotels" for martins, are well described. A table gives the best dimensions and height above the ground for houses intended for the various species. Plans for some food shelters are also given. The bulletin closes with some remarks on the care of bird houses and gives some suggestions concerning the handling of bird enemies. It is hoped that bird lovers in the West will avail themselves of this bulletin and put the information which it contains to good use.

Mr. Kalmbach's work on "Birds in Relation to the Alfalfa Weevil"⁴ is the result of two periods of field work in north-central Utah in 1911 and 1912. This pest was only introduced into the region in 1904, so that the results are of more than usual interest in showing the ability of birds to adapt themselves to a new food species in a short period of time. Forty-five species of birds ranging from the California Gull to the Mountain Bluebird were found feeding on the weevil, although the majority of the species were ground-inhabiting passerine

birds. Among these, the sparrows and the blackbirds and their allies were the most effective agents in the destruction of the weevil. The English Sparrow is a very abundant species throughout much of the weevil infested area, especially in the outlying districts, and in consequence of this a very detailed study of its food habits was made. In general it was found that the species was aiding in the destruction of the weevil, and it was recommended that the bounty on these birds be removed but that they be not placed on the list of protected species. In addition to the information concerning the alfalfa weevil there is a great deal concerning the other constituents of the food of the species studied. Five plates, two of which, a Western Meadowlark and a Brewer Blackbird are by Fuenes, and three text-figures illustrate the work.

The paper of anonymous authorship on American thrushes, which is stated to have been "prepared from data furnished by F. E. L. Beal", is here reviewed because of Professor Beal's remote connection with it and also to call attention to the evil results attending compilation by one not well informed or properly able to handle another's findings. All of the other articles in the 1913 Yearbook are signed by members of the various Bureaus of the Agriculture Department; but the author of this contribution seemingly felt it necessary to suppress his identity. The quite "breezy" style of the article reminds one more of a newspaper "story" than of a product from the scientific offices of the Federal government. The article is also marred by lack of definite organization, and irregularity of treatment, in these respects comparing unfavorably with the other articles in this volume and with the contributions which have appeared from the members of the Biological Survey in previous Yearbooks.

Statements concerning the insects found in the stomachs of the thrushes are sweeping in character, and, in general, exact quantitative statements are almost lacking. Rearranged, with superfluous matter eliminated and sweeping statements reduced, the article could be of value in disseminating information concerning these important and widely distributed birds, for the Yearbook reaches a vast number of readers; but in its present form this cannot be fairly said of it.—TRACY I. STORER.

³Dearborn, N., Bird Houses and How to Build Them. U. S. Dept. Agric., Farmers' Bull. 609, 19 pp., 48 text figs. Issued September 11, 1914.

⁴Kalmbach, E. R., Birds in Relation to the Alfalfa Weevil. U. S. Dept. Agric., Bull. 107 (Professional Paper), 84 pp., pls. I-V, 3 figs. in text. Issued July 27, 1914.

⁵Anonymous. The American Thrushes Valuable Bird Neighbors. Prepared from data furnished by Prof. F. E. L. Beal, Biological Survey. U. S. Dept. Agric., Yearbook, 1913, pp. 137-142, frontisp. and pl. XV. Issued 1914.



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NOTICE.—A new edition of the Naturalists' Directory has just been published by S. E. Cassino, Salem, Mass. This directory is invaluable to naturalists since it is the means of bringing together students and collectors in all parts of the world through correspondence. The directory contains an alphabetical list of English-speaking professional and amateur Naturalists in all parts of the world, also a list of Scientific Societies and Periodicals. The price of the Directory is \$2.50 in cloth binding, and \$2.00 in paper binding. Sent postpaid. As only a limited edition has been printed it is advisable for any one wishing a copy to order at once.

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